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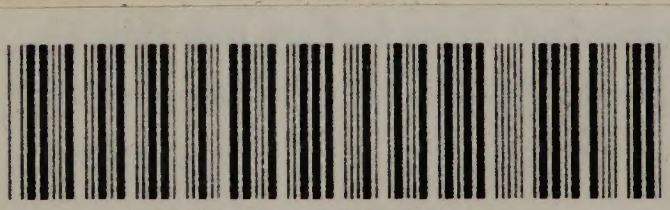
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   III. A Manual of the Practice of Medicine. By George Hilaro Barlow, M. D., &c.

   IV. Elements of Medicine. A Compendious View of Pathology and Therapeutics; or, the History and Treatment of Diseases. By S. H. Dickson, M. D., LL. D., Professor of the Institutes and Practice of Physic in the Medical College of the State of South Carolina.

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BOOKS RECEIVED.

1. Climate, Weather, and Disease. Being a Sketch of the Opinions of the most celebrated Antient and Modern Writers, with regard to the Influence of Climate and Weather in producing Disease. By A. Haviland, M. R. C. S., &c. London: Churchill, 1855. 8vo. pp. 144.

2. Guy's Hospital Reports. Edited by S. Wilks, M. D., &c., and A. Poland, F. R. C. S., &c. Third Series. Vol. I. London: Churchill, 1855. 8vo. pp. 381.

[*We are much gratified at the reappearance of these admirable Reports, the publication of which had been for some time suspended. The present is a very good Number, containing some valuable contributions in Medicine and Surgery. We hope on a future occasion to notice it at length.*]

3. Human Osteology; comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone, and its Development; to which is added a Brief Notice of the Unity of Type in the Construction of the Vertebrate Skeleton. By Luther Holden, F. R. C. S., &c. Illustrated by numerous Drawings on Stone and Woodcuts. London: Churchill, 1855. Royal 8vo. pp. 204.

4. Medical Notes and Reflections. By Sir Henry Holland, Bart., M. D., F. R. S., &c. Third Edition. London: Longmans, 1855. 8vo. pp. 615.

[*As we reviewed this classical work at length on the publication of the last edition, we shall now merely say, that it has been much improved throughout; the arrangement of the chapters has been altered so as to bring the subjects treated of more into sequence, and the psychological essays which are now included in the author's work on "Mental Physiology" have been replaced by others not before published. The book is one that cannot fail to be studied with profit by any professional man.*]

5. A Treatise on the Structure and Use of the Spleen. Being one of three unsuccessful Essays for the Astley Cooper Prize, awarded July, 1853. With additional Notes and an Appendix, containing an Exposé of the Numerous Errors in the Prize Essay. By Edward Crisp, M. D., &c. London: Printed for the Author. 8vo. pp. 198.

6. Surgical Anatomy. By Joseph Maclise, F. R. C. S. Second Edition. London: Churchill, 1855. Fasciculi 9 and 10.

7. Medical Anatomy. By Francis Sibson, M. D., F. R. S., &c. London: Churchill, 1855. Folio. Fasciculi 2 and 3.

[*These two works are advancing with great regularity from Mr. Churchill's press. The Parts before us fully sustain the character we gave of those previously published. We shall take an early opportunity of reviewing Mr. Sibson's Medical Anatomy in the body of our Journal.*]

8. Hooping-Cough, its History, Nature, and successful Treatment. By Laurence Turnbull, M. D., &c. Philadelphia: Lindsay and Blakiston. 1855. Pamphlet, pp. 18.

9. A Manual of the Practice of Medicine. By George Hilaro Barlow, M. D., &c. London: Churchill, 1856. Fcap. 8vo. pp. 706.

10. A Treatise on Mechanical Support to the Rectum for the Treatment of Prolapsus and Hemorrhoids. By J. E. Riadore, M. D., &c. London: Churchill, 1855. Fcap. 8vo. pp. 96.

[*The only point of novelty we can discover in this little work is that Dr. Riadore, after having undergone three severe surgical operations without relief, for prolapsus ani and hemorrhoids, now derives benefit from employing instrumental support to the rectum.*]

11. Observations on the Term of Utero-Gestation. With a View of Correcting the Opinions generally entertained in respect to Protracted Gestation, &c. By Charles Clay, M. D., &c., Manchester. London: Renshaw, 1855. Pamphlet, pp. 24.

12. On the Organic Diseases and Functional Disorders of the Stomach By G. Budd, M. D., F. R. S., &c. London: Churchill, 1855. 8vo. pp. 357.

13. Aperçu du Système Spinal ou de la Série des Actions Réflexes dans leurs Applications à la Physiologie à la Pathologie et spécialement à l'Epilepsie. Par Marshall Hall, associé étranger de l'Académie Impériale de Médecine de Paris, &c. Paris: Masson, 1855. 12mo. pp. 246.

14. The Diseases of the Rectum. By Richard Quain, F. R. S., &c. Second Edition, with Additions. London: Walton and Maberly, 1855.

15. On Unsoundness of Mind in its Medical and Legal Considerations. By J. W. Hume Williams, M. D. London: Churchill. Dublin: Hodges, Smith, and Co., 1856. 8vo. pp. 238.

16. A Lecture delivered to the Medical Classes of the Original School of Medicine, Peter-street, Dublin, Session 1855–56. By Thomas H. Ledwich, F. R. C. S. I., &c. Dublin: Fannin and Co., 1855. Pamphlet, pp. 28.

[*A most eloquent lecture, setting forth the position and prospects of the Medical Profession, both in public and private life.*]

17. Chloroform. How shall we ensure Safety in its Administration? By P. Black, M. D., &c. London: Churchill, 1855. Pamphlet, pp. 40.

18. Automatic Mechanism, as applied to the Construction of Artificial Limbs in Cases of Amputation. By Frederick Gray, Esq., &c. London: Renshaw, 1855. 8vo. pp. 221.

[*An elegantly printed volume, pointing out Mr. Gray's improvements in artificial limbs, and containing upwards of one hundred pages of testimonials from those who have employed him.*]

19. A Catechism of Chymical Philosophy; being a Familiar Exposition of the Principles of Chymistry and Physics in their Application to the Arts and Comforts of Life. Designed for the use of Schools and Private Instruction. By John Horsley. London: Churchill, 1856. Post 8vo. pp. 247.

[*Admirably adapted as an elementary work for general teaching.*]

20. The First Step in Chemistry. A New Method for Teaching the Elements of the Science. By Robert Galloway, F. R. S., &c. Second Edition. London: Churchill, 1856. Fcap. 8vo. pp. 303.

[*A correct and useful little book, which we are glad to see has reached a second edition.*]

21. A Manual of the Domestic Practice of Medicine. By W. B. Kesteven, F. R. C. S. E. London: Longmans, 1856. Square Post 8vo. pp. 328.

[*We regret to see a surgeon of Mr. Kesteven's position prostituting his talents by compiling such a work as this. In casting our eye over its pages we have, moreover, discovered that it is not free from errors.*]

22. Report of the Cholera Outbreak in the Parish of St. James, Westminster, during the Autumn of 1854. Presented to the Vestry by the Cholera Inquiry Committee, July, 1855. London: Churchill, 1855. 8vo. pp. 176.

23. Digestion and its Derangements. The Principles of Rational Medicine applied to Disorders of the Alimentary Canal. By Thomas K. Chambers, M. D., F. C. P., &c. London: Churchill, 1856. Post 8vo. pp. 552.

[*In our next.*]

24. Die Künstliche Frühgeburt. Monographisch dargestelldt. Von Albert Krause, ordentlichem Professor der Medicin zu Dorpat. Breslau: Trewendt und Granier, 1855. 8vo. pp. 368.

25. Personal and Domestic Hygiene; showing the value of Sanitary Laws. Addressed especially to the Working Classes. By Lionel J. Beale, Surgeon. London: Churchill, 1855. 8vo. pp. 23.

26. Common Sense versus Homœopathy. By S. Knaggs, M. R. C. S. E., &c. London: Churchill, 1855. Pamphlet, pp. 48.

27. Hooper's Physician's Vade Mecum; or, a Manual of the Principles and Practice of Physic. Fifth Edition, considerably Enlarged and Improved; with an Outline of General Pathology and Therapeutics. By W. A. Guy, M. B., &c. London: Renshaw. Dublin: Fannin, 1856. Fcap. 8vo. pp. 676.

28. Letters to a Young Physician just entering upon Practice. By James Jackson, M. D., LL. D., Professor of the Theory and Practice of Physic in the University of Cambridge, U. S., &c. Boston, U. S.: Phillips, Sampson, and Co., 1855. 12mo. pp. 344.

29. Dyspepsie et Consomption, Ressources que la Poudre Nutrimentive (Pepsine Acidifiée) offre dans ces Cas à la Médecine Pratique. Par le Docteur Lucien Corvisart, Médecin (par quartier) de S. M. L'Empereur, &c. Paris: Labé, 1854. 8vo. pp. 77.

[*This pamphlet points out the value of rennet obtained from the fourth stomach of the calf, so prepared as to be reduced to a pulverulent state, as an article of diet for the dyspeptic and consumptive.*]

30. Introductory Address delivered at the Royal College of Surgeons in Ireland, on the Inauguration of the Military Surgery Chair, November 12, 1855. By Jolliffe Tufnell, Regius Professor of Military Surgery. Dublin: Fannin and Co., 1855. Pamphlet, pp. 34.

[*Mr. Tufnell, in this very able Address, points out the position which Military Surgery at present occupies, and fearlessly and eloquently comments on the great neglect which it received at the hands of the authorities in the present war.*]

31. Aids during Labour; including the Administration of Chloroform, the Management of the Placenta, and Post-partum Hemorrhage. By J. R. Pretty, M. D. London: Churchill, 1856. Post 8vo. pp 210.

32. On the Chemical Analysis of the Tennessee Collection of Urinary Calculi. By E. B. Haskins, M. D. Clarksville, U. S.: Faxon, 1855. Pamphlet, pp. 24.

33. A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum. With numerous Wood Engravings. By T. B. Curling, F. R. S., &c. Second Edition. London: Churchill, 1856. 8vo. pp. 519.

[*In our next.*]

34. The Influence of Tropical Climates on European Constitutions; including Practical Observations on the Nature and Treatment of the Diseases of Europeans on their Return from Tropical Climates. By J. R. Martin, F. R. S., &c. A New Edition. London: Churchill, 1856. 8vo. pp. 599.

[*In our next.*]

35. De La Rue's Medical Memorandum Book and Indelible Diary for 1856. Edited by a Physician.

[*Having ourselves used this pocket memorandum-book since the beginning of the year, we can bear testimony to its convenience of arrangement, and the admirable style in which it is got out.*]

36. Copies of Correspondence in the Case of the Medical Officer lately dismissed by "Sealed Order" from the Cork Dispensary. Published for the Cork Medical Protection Association. 1855. Pamphlet, pp. 21.

[*We highly commend our Cork brethren for the manner in which, as we learn from the pamphlet before us, this case was taken up by them, and we congratulate them on the result obtained.*]

37. Untersuchungen über den Einfluss, welchen die Blütströmung au die Bewegungen der Iris und anderer Theile des Kopfes ansübt. Inauguralf Abhandlung von Adolf Kusmaul. Wurzburg, 1855. Pamphlet, pp. 42.

38. Consumption: its Causes, Prevention, and Cure. By Thomas Bartlett, M. D. London: Bailliére, 1855. Post 8vo. pp. 172.

39. The Nature, Treatment, and Prevention of Pulmonary Consumption, and Incidentally of Scrofula; with a Demonstration of the Cause of the Disease. By Henry M'Cormac, M. D. London: Longmans, 1855. Post 8vo. pp. 111.

40. Statistics of Grave-yards in Scotland. By John Webster, M. D., &c. Pamphlet, pp. 22.

[*A most interesting little Essay bearing on the question of longevity.*]

PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review and Journal of Practical Medicine. Published Quarterly. London: Churchill, and Highley. (Received regularly.)

2. The Edinburgh Medical Journal. Published Monthly. Edinburgh: Sutherland and Knox. (Received regularly.)

3. The Retrospect of Medicine, being a half-yearly Journal, containing a retrospective View of every Discovery and practical Improvement in the Medical Sciences. Edited by W. Braithwaite. London: Simpkin and Co. (Received regularly.)

4. The Half-Yearly Abstract of the Medical Sciences, being a practical and analytical Digest of the principal British and Continental Medical Works, &c. Published Half-Yearly. Edited by W. H. Ranking, M. D., and C. B. Radcliffe, M. D. London: Churchill. (Received regularly.)

5. Pharmaceutical Journal and Transactions. Published Monthly. London. Edited by Jacob Bell. (Received regularly.)

6. The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science. Conducted by Sir D. Brewster, R. Taylor, Sir R. Kane, W. Francis, and J. Tyndall. Published Monthly. London: Taylor. (Received regularly.)

7. The Chemist, a Monthly Journal of Chemical Philosophy and of Chemistry. Edited by J. and C. Watt. London: Watt. (Received regularly.)

8. Medical Times and Gazette. Published Weekly. London: John Churchill. (Received regularly.)

9. Association Medical Journal. Edited by A. Wynter, M. D. Published Weekly. London: Honeyman. (Received regularly.)

10. The Medical Circular. Published Weekly. London: Harris. (Received regularly.)

11. The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D. Published Quarterly. London: Churchill. (Received regularly.)

12. Quarterly Journal of Microscopical Science: including the Transactions of the Microscopical Society of London. Edited by E. Lankester, M. D., F. R. S., &c., and G. Busk, F. R. C. S. E., F. R. S., &c. London: Churchill. (Received regularly.)

13. The Glasgow Medical Journal. Published Quarterly. Griffin and Co. (Received regularly.)

14. The Athenæum—Journal of English and Foreign Literature, Science, &c. Published Weekly. London. (Received regularly.)

15. The Dublin Medical Press. Published Weekly.

16. The Dublin Hospital Gazette. Published twice a Month.

INDIA.

17. The Indian Annals of Medical Science; or, Half-Yearly Journal of Practical Medicine and Surgery. Calcutta: Lepage and Co. (No. V. received.)

18. Transactions of the Medical and Physical Society of Bombay. Printed at the Bombay Education Society's Press. (Received No. 2, New Series, for the Years 1853 and 1854.)

AMERICA.

19. The American Journal of the Medical Sciences. Edited by Isaac Hays, M. D. Published Quarterly. Philadelphia: Blanchard and Lea. (Received regularly.)

20. The Medical Examiner and Record of Medical Science. Edited by S. L. Hollingsworth, M. D. Published Monthly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

21. The New York Journal of Medicine and the Collateral Sciences. Edited by S. S. Purple, M. D., and S. Smith, M. D. Published Monthly. New York. (Received regularly.)

22. The American Journal of Science and Arts; conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana, &c. Published Bimonthly. New Haven. (Received regularly.)

23. The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica, Quarterly. (Received regularly.)

24. The American Journal of Dental Science. Edited by C. A. Harris, M. D., A. A. Blandy, M. D., and A. S. Piggot, M. D. Published Quarterly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

25. The Boston Medical and Surgical Journal. Published Weekly. Boston: Clapp. (Nos. 295, 296, 297, & 230, &c., not received.)

26. The American Medical Monthly. New York: Allen. (Received regularly.)

27. The Charleston Medical Journal. Published Monthly. Charleston, U. S.

FRANCE.

28. Gazette Médicale de Paris. Published Weekly. Paris. (Received regularly.)

29. Gazette Hebdomadaire de Médecine et de Chirurgie. Published Weekly. Paris: Victor Masson. (Received regularly.)

30. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue des nouvelles, scientifiques, nationales et étrangères, &c. Published Monthly. Paris: Labé. (Received regularly.)

31. Journal de Pharmacie et de Chimie, &c. Published Monthly. Paris: Victor Masson. (Received regularly).

32. L'Union Médicale, Journal des intérêts scientifiques et pratiques, moraux et professionels du Corps médical. Published three times a Week. Paris. (Received regularly.)

33. La Lancette Française, Gazette des Hôpitaux civils et militaires. Published three times a Week. Paris. (Received regularly.)

34. Le Moniteur des Hôpitaux, Journal des Progrès de la Médecine et de la Chirurgie Pratiques. Redacteur en chef: M. H. de Castelnau. Paris. Published three times a Week. (Received regularly.)

35. Revue Médicale Française et étrangère, Journal des Progrès de la Médecine Hippocratique. Published twice a Month. Par J. B. Cayol. Paris. (Received regularly.)

36. Archives Générales de Médecine; Journal Complémentaire des Sciences Médicales. Published Monthly. Paris: Labé. (Received regularly.)

37. Bulletin de l'Académie Nationale de Médecine. Published Monthly. Paris: Baillière. (Received regularly.)

38. Mémoires de l'Académie de Médecine. (Received regularly.)

39. Revue de Thérapeutique Médico-Chirurgicale. Published twice a Month. Paris: Dr. A. Martin-Lauzer. (Received regularly.)

40. Journal de Médecine et de Chirurgie Pratiques a l'Usage des Médecin. Published Monthly. Par Lucas Champonnière. Paris. (Received regularly.)

41. Journal des Connaissances Médicales pratiques et de Pharmacologie. Published twice a Month. Paris. (Received regularly.)

42. Annales Médico-Psychologiques. Par MM. Baillarger, Brierre de Boismont, et Cerise. Published Quarterly. Paris: Victor Masson. (Received regularly.)

43. Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Recueil pratique. Publiée par le Docteur Debout. Published twice a Month. Paris. (Received regularly.)

44. Repertoire de Pharmacie. Recueil pratique. Par M. le Dr. Bouchardat. Published Monthly. (Received regularly.)

45. Archives d'Ophthalmologie, comprenant les travaux les plus importants sur l'Anatomie, la Physiologie, la Pathologie, l'Hygiène et la Thérapeutique de l'Appareil de la Vision. Par M. A. Jamain, Docteur en Médecine, &c. Published Monthly. Paris. (Received regularly.)

46. Gazette Médicale de Strasbourgh. Published Monthly. (Received regularly.)

47. Revue Thérapeutique du Midi, &c. Par le Dr. Louis Saurel. Published twice a Month. Montpellier. (Received regularly.)

48. Journal de Médecine de Bordeaux. Redacteur en chef, M. Costes. Published Monthly. (Received regularly.)

BELGIUM.

49. Annales D'Oculistique. Fondées par le Docteur Florent Cunier. Published Monthly. Brussels. (Received regularly.)

50. Nouvelle Encyclographie des Sciences Médicales. Publiée par une Société de Médecins. Published Monthly. (Received regularly.)

51. Annales et Bulletin de la Société de Médecine de Gand. Published Monthly. (Nos. 1 and 2, for 1854, not received.)

GERMANY.

52. Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle and Dr. C. Pfeufer. Published Monthly. (Received regularly, except Vol. IV. No. 3.)

53. Der ärztliche Hausfreund, herausgegeben von R. Froriep. Landes-Industrie-Comptoir, in Weimar. (Nos. 52 to 57 not received.)

54. Zeitschrift der Kais. Kön. Gesellschaft der Aerzte zu Wien. Redacteur: Professor, Dr. Ferdinand Hebra. (No. 12, for 1853, and Nos. 3, 4, and 6, 9, 10, 11, for 1854, not received.)

55. Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag. Published Quarterly. Karl André. (Received regularly.)

56. Annalen der Chemie und Pharmacie. Herausgegeben von F. Wöhler und J. Liebig. Published Monthly. Heidelberg. (Received regularly.)

57. Canstatt's Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern, im Jahre 1852. Redigirt von Pr. Scherer, Pr. Virchow, und Dr. Eisenmann. Würzburg: Stahel. (Received regularly.)

58. Journal für Kinderkrankheiten. Herausgegeben von Dr. Fr. J. Behrend und Dr. A. Hildebrand. Published Monthly. Erlangen: Palm und Enke. (Parts 3 and 4, 1854, and 1 and 2, 1855, not received.)

59. Wochenblatt der Zeitschrift der kaiserl. königl. Gesellschaft der Aerzte zu Wien. Published Weekly. (Received regularly.)

PRUSSIA.

60. Archiv für pathologische Anatomie und Physiologie, &c., Herausgegeben von R. Virchow. Berlin. Published Monthly. (Received regularly.)

HOLLAND.

61. Nederlandsch Lancet. (Received regularly.)

NORWAY.

62. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Published Monthly. Christiania: Feilberg & Landmark. (Received regularly.)

SWEDEN.

63. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Published Monthly. Stockholm: Fritze. (Received regularly.)

ITALY.

64. Gazzetta Medica Italiana Federativa Toscana. Florence. Published Weekly. (Received regularly, except No. 3, for 1854.)

65. Bulletino delle Scienze Mediche. Publicato per cura della Società Medico-Chirurgica di Bologna. Published Monthly. (Received regularly.)

66. Giornale Veneto di Scienze Mediche. Published Monthly. (Numbers for April and May, 1854, and February and March, 1855, not received.)

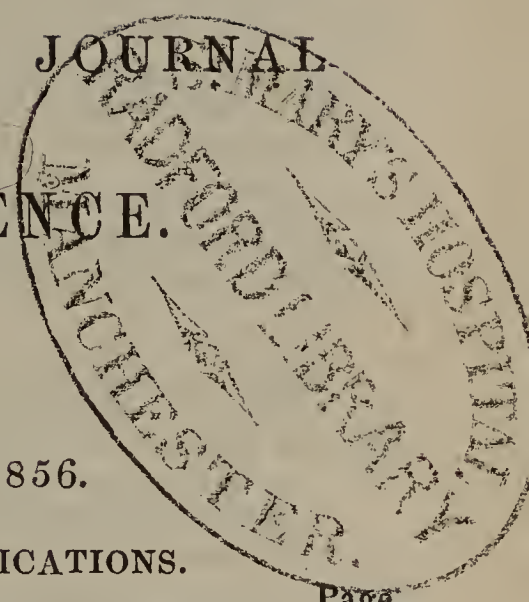
Books and Periodicals published in Northern Europe, intended for our Journal, should be transmitted "For the Editor of the Dublin Quarterly Medical Journal, care of Messrs. Williams and Norgate, London," *through their Correspondents* in the principal Towns on the Continent. Our Correspondents in France, Belgium, Southern Germany, Italy, and Spain, are requested to communicate with us through "Doctor Higgins, 212, Rue Rivoli, Paris."

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15. Report on the Diet of the Sick, submitted to the American Medical Association, May, 1855, and republished from their Transactions. By Charles Hooker, M. D., Professor of Anatomy and Physiology in Yale College, ... 424

16. A Manual of Zoology. By M. Milne-Edwards. Translated by R. Knox, M. D., F. R. S. E., &c. Illustrated by 500 first-class Wood Engravings, ... 425

17. The Micrographic Dictionary. A Guide to the Examination and Investigation of the Structure and Nature of Microscopic Objects. By J. W. Griffith, M. D., F. L. S., &c., and Arthur Henfrey, F. R. S., F. L. S.. &c. Illustrated by 41 Plates and 816 Woodcuts, ... 427

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BOOKS RECEIVED.

1. Trees and their Nature; or, the Bud and its Attributes. In a series of Letters to his Sons. By A. Harvey, A. M., M. D., &c. Illustrated with Engravings. London: Nisbet and Co., 1856. Fcap. 8vo. pp. 236.

[*In this elegant and instructive little volume is developed the theory, that every individual tree is not a single plant, but is composed of a congeries or congregation of annual plants represented by the buds; and from it is deduced the conclusion, that the life of trees must be regarded as indefinite, and the size to which they may grow unlimited. It is a most interesting question in Natural History, well worked out.*]

2. Hints to Husbands. By One of the Guild. A Revelation. London: Simpkin, Marshall and Co., 1856. Post 8vo. pp. 125.

[*Our opinion of this vulgar and foolish production will be found in a footnote at page* 368 *of our present Number.*]

3. Eighteenth Annual Report of the Suffolk Lunatic Asylum, December, 1855. Pamphlet, pp. 26.

4. The Advancement of Midwifery Education in Scotland. A Letter addressed to Dr. A. Wood, President of the Royal College of Surgeons. By J. Matthews Duncan, A. M., M. D., &c. Edinburgh: Sutherland and Knox, 1856. Pamphlet, pp. 15.

[*There are several points in this pamphlet worthy of attention by the heads of the Profession in Scotland, but the author is incorrect in some of his statements regarding the Irish licensing bodies.*]

5. On Cystic Entozoa in the Human Kidney. With an Illustrative Case. By T. Herbert Barker, M. D., &c. London: Hamilton, Adams and Co., 1856. Pamphlet, pp. 18.

[*An interesting contribution to practical medicine, but scarcely deserving of separate publication in the Pamphlet form.*]

6. A Practical Treatise on Vesicular Hydatids of the Uterus; comprising a General View of their Etiology, Pathogeny, Semeiology, Prognosis, and Treatment. By W. H. Ashley, M. D., &c. London: Baillière, 1856. Fcap. 8vo. pp. 109.

7. Ocular Spectres and Structures as Mutual Exponents. A Treatise. Eustachian Tube, why opened in Deglutition? A Paper. By James Jago, A. B., M. B., &c. London: Churchill, 1856. 8vo. pp. 110.

8. The Report of the Committee of Visitors and Medical Superintendent of the Devon County Lunatic Asylum. Exeter: 1856. Pamphlet, pp. 21.

9. Cianogeno Idrosolforato Rinvenuto nella Espirazione dei Colerosi nel Sangue e nelle Ossa dei Medesimi Morti nello Stadio Algido. Memoria di Paoli Peretti. Rome: 1856. Pamphlet, pp. 17.

[*The author reports that he has discovered hydro-sulphuret of cyanogen during life and after death in cholera patients, and thence deduces a theory of the disease.*]

10. Elm Tents for the Dilatation of the Cervix Uteri. By H. R. Storer, M. D. (From the Boston U. S. Medical and Surgical Journal). Pamphlet, pp. 8.

[*Some observations by a late assistant of Professor Simpson on the employment of that Professor's uterine tents, and a suggestion for their construction in America out of the bark of the slippery elm.*]

11. Medical and Middle Class Education. An Address delivered at the Chatham-street School of Medicine, Manchester, on Monday, January 21, 1856, by Sir James Hay Shuttleworth, Bart., on the occasion of the Annual Distribution of the Prizes. Manchester: Simms, 1856. Pamphlet, pp. 28.

[*An interesting Lecture: more suited, however, for the public than the profession.*]

12. The Transactions of the American Medical Association, instituted 1847. Vol. VIII. Philadelphia: J. K. and P. G. Collins, 1855. Royal 8vo. pp. 763.

[*We have noticed one of the Essays contained in these valuable and highly important Transactions—that on the Diet of the Sick—in our Review department.*]

13. The Micrographic Dictionary. A Guide to the Examination and Investigation of the Structure and Nature of Microscopic Objects. By J. W. Griffith, M. D., F. L. S., &c., and Arthur Henfrey, F. R. S., F. L. S., &c. Illustrated by 41 Plates and 816 Woodcuts. London: John Van Voorst, 1856. 8vo. pp. 696.

14. The Medical Directory for Ireland, 1856. Uniform with the London and Provincial Medical Directory. London: Churchill. 12mo. pp. xlvi., 228.

[*We are rejoiced to find that the proprietors have again issued an Irish Medical Directory. Carefully and well compiled, it deserves every support from the profession.*]

15. Extract from the Report of Eye and Ear Infirmary, 90, Mount-pleasant, for 1855. Liverpool: Smith and Co., 1856. Pamphlet, pp. 4.

16. Consumption: what it is, and what it is not; its Causation and its Remediability. A Lecture. By J. C. Ferguson, A. M., M. B., Professor of Practice of Medicine, Queen's College, Belfast, &c. Belfast: Greer, 1856. Pamphlet, pp. 24.

[*This simple exposition of Consumption, clearly and elegantly written, was called forth by the publication of Dr. M'Cormac, of the same town, which we reviewed in our last Number; nor does a hastily written letter by Dr. M'Cormac, recently published in our contemporary, the Dublin Medical Press, and addressed to us, alter in the least the opinion we then expressed.*]

17. Throat Ailments; more especially the Enlarged Tonsil and Elongated Uvula, in Connexion with Defects of Voice, Speech, Hearing, Deglutition, Respiration, Cough, Nasal Obstruction, and the Imperfect Development of Health, Strength, and Growth in young persons. By James Yearsley, M. R. C. S. E., &c. Sixth Edition. London: Churchill, 1856. 8vo. pp. 112.

18. Surgical Anatomy. By Joseph Maclise, F. R. C. S. Second Edition. London: Churchill, 1856. Folio. Fasciculus XI.

19. Medical Anatomy. By Francis Sibson, M. D., F. R. S., &c. London: Churchill, 1856. Folio. Fasciculus IV.

20. A Manual of Zoology. By M. Milne-Edwards. Translated by R. Knox, M. D., F. R. S. E., &c. Illustrated by 500 first-class Wood Engravings. London: Renshaw, 1856. Fcap. 8vo. pp. 503.

21. An Account of a Mode of Treating the Smallpox which entirely prevents Disfigurement, and renders the Disease comparatively harmless. To which is attached, a Concise History. By Henry George, M. R. C. S. L., &c. Fourth Edition. London: Grant and Griffith, 1856. 12mo. pp. 116.

[*In noticing a previous edition of this little book, we stated on what shallow grounds the author had founded the opinions he advanced; he then advocated calamine, he now advocates camphor.*]

22. Mémoire sur le Traitement Chirurgical des Abscès du Sein, par la Méthode du Drainage. Par M. le Docteur Chassaignac. Paris: Thurnot et C^ie^, 1855. Pamphlet, pp. 34.

23. Précis Iconographique de Bandages, Pansements et Appareils. Par M. le Dr. Goffres. Paris: Méquignon-Marvis, 1854. Part V., pp. 177 to 228, and Plates 43 to 49.

24. Third Annual Report of the Surgeons of the New York Ophthalmic Hospital, for the year 1855. New York: Fanshaw, 1856. Pamphlet, pp. 16.

25. On the Study of Medicine; the Introductory Address at Surgeons' Hall. Session 1855–56. By John Struthers, M. D., Lecturer on Anatomy. Edinburgh: Sutherland and Knox, 1856. Pamphlet, pp. 34.

[*An eloquent and instructive introductory Lecture.*]

26. Cell Therapeutics. By William Addison, M. D., F. R. S. London: Churchill, 1856. 8vo. pp. 84.

27. A Short Essay upon the Qualifications, Duties, and Remuneration of Union Medical Officers. By Robert Knaggs, Swindon. London: Churchill, 1856. Pamphlet, pp. 15.

28. Diseases of the Heart; their Pathology, Diagnosis, and Treatment. By W. O. Markham, M. D., &c. London: Churchill, 1856. Post 8vo. pp. 346.

29. A Paper on the Effects of Lead on the Heart. By John W. Corson, M. D., &c. New York: Miller and Holman, 1856. Pamphlet, pp. 24.

30. On Improvements recently made in the Treatment of Stricture of the Urethra; being a Supplement to a Treatise on Stricture and Stone. By James Arnott, M. D., &c. London: Churchill, 1856. Pamphlet, pp. 36.

31. The Census of Ireland for the year 1851. Part IV. Report on Ages and Education. Presented to both Houses of Parliament by Command of Her Majesty. Dublin: Thom, 1855. Folio, pp. lviii. and 188.

[*A most valuable and carefully compiled statistical volume, the nature of which is sufficiently expressed in the title.*]

32. The Asylum Journal of Mental Science. Published by Authority of the Association of Medical Officers of Asylums and Hospitals for the Insane. Edited by J. C. Bucknill, M. D. London: Longmans. No. 17, April, 1856.

[*This Journal is considerably improved in its new shape; we shall hereafter notice it more at length.*]

33. An Essay on Intermittent and Bilious Remittent Fevers, with their Pathological Relation to Ozone. By E. S. Guillard, M. D. Charleston, U. S.: Walker and Evans, 1856. Pamphlet, pp. 59,

[*A contribution in aid of certain modern theorists, who are inclined to attribute the existence or non-existence of diseases, whether epidemic or not, to the amount of ozone in the atmosphere.*]

34. Clinical Lectures on Surgery. By M. Nélaton. From Notes taken by W. F. Atlee, M. D. Philadelphia: Lippincott and Co., 1855. 8vo. pp. 755.

[*In our next.*]

35. Eighth Report of the Somerset County Pauper Lunatic Asylum, from 1st January to the end of the year 1855. Wells: Green, 1856. Pamphlet, pp. 61.

36. Report on the Diet of the Sick, submitted to the American Medical Association at the Meeting in Philadelphia, May, 1855. By Charles Hooker, M. D., &c. Philadelphia: T. K. and P. G. Collins, 1855. 8vo. pp. 48.

37. The Adulteration of Food and Drinks. Published at the request of the Halifax Literary and Philosophical Society. By W. Alexander, M. D., &c. London: Longmans, 1856. 8vo. pp. 32.

[*We do not see any excuse for the publication of this Pamphlet, which contains nothing novel.*]

38. Pharmakologisch-Medicinische Studien über den Hanf. Inaugural-Abhandlung der Medicinischen Facultät in Erlanger vorgelegt von Dr. Georg Martius. 1855. 8vo. pp. 92.

39. On the Medical Selection of Lives for Assurance. By William Brinton, M. D., &c. London: Churchill, 1856. 8vo. pp. 58.

[*We cannot recommend this pamphlet of Dr. Brinton's to those of the profession interested in the examination of lives for assurance. It is both meagre and defective.*]

40. Medical Charities, Ireland. Fourth Annual Report of the Commissioners for Administering the Laws for Relief of the Poor in Ireland, under the Medical Charities Act. Presented to both Houses of Parliament by Command of Her Majesty. Dublin: Thom, 1856. 8vo. pp. 163.

[*Like their previous Annual Reports, the drawing up of which we had always to commend, that for the past year contains a mass of information highly interesting to the profession, especially in Ireland.*]

41. Records of Obstetric Consultation Practice; and a Translation of Busch and Moser on Uterine Hemorrhage. With Notes and Cases. By E. Copeman, M. D., F. R. C. S., &c. London: Churchill, 1856. Post 8vo. pp. 223.

[*In our next.*]

42. The British Journal of Homœopathy. No. LVI., April, 1856. London: Groombridge.

43. Littlemore Asylum. Superintendent's Report for 1855. With Statistical Tables. Pamphlet, pp. 37.

44. An Oration delivered before the Hunterian Society, February 13, 1856. By Thomas Callaway, F. R. C. S., &c. Pamphlet, pp. 24.

[*An excellent discourse; here and there, however, presenting signs of hasty preparation, for which the author apologizes. The chief points taken up are the relations between society and the physician, and the most important recent improvements and discoveries in Medicine and Surgery.*]

45. A Manual for Midwives and Monthly Nurses. Dublin: Fannin and Co., 1856. Fcap. 8vo. pp. 170.

PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review and Journal of Practical Medicine. Published Quarterly. London: Churchill, and Highley. (April Number not received.)

2. The Edinburgh Medical Journal. Published Monthly. Edinburgh: Sutherland and Knox. (Received regularly.)

3. The Retrospect of Medicine, being a half-yearly Journal, containing a retrospective View of every Discovery and practical Improvement in the Medical Sciences. Edited by W. Braithwaite. London: Simpkin and Co. (Received regularly.)

4. The Half-Yearly Abstract of the Medical Sciences, being a practical and analytical Digest of the principal British and Continental Medical Works, &c. Published Half-Yearly. Edited by W. H. Ranking, M. D., and C. B. Radcliffe, M. D. London: Churchill. (Received regularly.)

5. Pharmaceutical Journal and Transactions. Published Monthly. London. Edited by Jacob Bell. (Received regularly.)

6. The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science. Conducted by Sir D. Brewster, R. Taylor, Sir R. Kane, W. Francis, and J. Tyndall. Published Monthly. London: Taylor. (Received regularly.)

7. The Chemist, a Monthly Journal of Chemical Philosophy and of Chemistry. Edited by J. and C. Watt. London: Watt. (Received irregularly. The Numbers for March, 1855, and for February and March, 1856, have not reached us.)

8. Medical Times and Gazette. Published Weekly. London: John Churchill. (Received regularly.)

9. Association Medical Journal. Edited by A. Wynter, M. D. Published Weekly. London: Honeyman. (Received regularly.)

10. The Medical Circular. Published Weekly. London: Harris. (Received regularly.)

11. The Journal of Psychological Medicine and Mental Pathology. Edited by Forbes Winslow, M. D. Published Quarterly. London: Churchill. (Received regularly.)

12. Quarterly Journal of Microscopical Science: including the Transactions of the Microscopical Society of London. Edited by E. Lankester, M. D., F. R. S., &c., and G. Busk, F. R. C. S. E., F. R. S., &c. London: Churchill. (Number for April not received.)

13. The Glasgow Medical Journal. Published Quarterly. Griffin and Co. (Received regularly.)

14. The Athenæum—Journal of English and Foreign Literature, Science, &c. Published Weekly. London. (Received regularly.)

15. The Dublin Medical Press. Published Weekly. (Received regularly.)

16. The Dublin Hospital Gazette. Published twice a Month. (Received regularly.)

INDIA.

17. The Indian Annals of Medical Science; or, Half-Yearly Journal of Practical Medicine and Surgery. Calcutta: Lepage and Co. (No. V. received.)

18. Transactions of the Medical and Physical Society of Bombay. Printed at the Bombay Education Society's Press. (Received No. 2, New Series, for the Years 1853 and 1854.)

AMERICA.

19. The American Journal of the Medical Sciences. Edited by Isaac Hays, M. D. Published Quarterly. Philadelphia: Blanchard and Lea. (Received regularly.)

20. The Medical Examiner and Record of Medical Science. Edited by S. L. Hollingsworth, M. D. Published Monthly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

21. The New York Journal of Medicine and the Collateral Sciences. Edited by S. S. Purple, M. D., and S. Smith, M. D. Published Monthly. New York. (Received regularly.)

22. The American Journal of Science and Arts; conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana, &c. Published Bimonthly. New Haven. (Received regularly.)

23. The American Journal of Insanity. Published by the New York State Lunatic Asylum, Utica, Quarterly. (Received regularly.)

24. The American Journal of Dental Science. Edited by C. A. Harris, M. D., A. A. Blandy, M. D., and A. S. Piggot, M. D. Published Quarterly. Philadelphia: Lindsay and Blakiston. (Received regularly.)

25. The Boston Medical and Surgical Journal. Published Weekly. Boston: Clapp. (Nos. 296, 297, & 300, &c., not received. If the deficient Numbers do not reach us before the issue of our next Number, we shall be compelled to remove this Journal from our Exchange List.)

26. The American Medical Monthly. New York: Allen. (No. 2 of Vol. IV. not received.)

27. The Charleston Medical Journal. Published Monthly. Charleston, U. S. (Received regularly, except Nos. 1 and 2 of Vol. X.)

FRANCE.

28. Gazette Médicale de Paris. Published Weekly. Paris. (Received regularly.)

29. Gazette Hebdomadaire de Médecine et de Chirurgie. Published Weekly. Paris: Victor Masson. (Received regularly.)

30. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue des nouvelles, scientifiques, nationales et étrangères, &c. Published Monthly. Paris: Labé. (Received regularly.)

31. Journal de Pharmacie et de Chimie, &c. Published Monthly. Paris: Victor Masson. (Received regularly).

32. L'Union Médicale, Journal des intérêts scientifiques et pratiques, moraux et professionels du Corps médical. Published three times a Week. Paris. (Received regularly.)

33. La Lancette Française, Gazette des Hôpitaux civils et militaires. Published three times a Week. Paris. (Received regularly.)

34. Le Moniteur des Hôpitaux, Revue Médico-Chirurgicale de Paris. Redacteur en chef: M. H. de Castelnau. Paris. Published three times a Week. (Received regularly.)

35. Revue Médicale Française et étrangère, Journal des Progrès de la Médecine Hippocratique. Published twice a Month. Par J. B. Cayol. Paris. (Received regularly.)

36. Archives Générales de Médecine; Journal Complémentaire des Sciences Médicales. Published Monthly. Paris: Labé. (Received regularly.)

37. Bulletin de l'Académie Nationale de Médecine. Published Monthly. Paris: Baillière. (Not received since Vol. XVI.)

38. Mémoires de l'Académie de Médecine. (Received regularly.)

39. Revue de Thérapeutique Médico-Chirurgicale. Published twice a Month. Paris: Dr. A. Martin-Lauzer. (Received regularly.)

40. Journal de Médecine et de Chirurgie Pratiques a l'Usage des Médecins. Published Monthly. Par Lucas Champonnière. Paris. (Received regularly.)

41. Journal des Connaissances Médicales pratiques et de Pharmacologie. Published every ten days. Paris. (Received regularly.)

42. Annales Médico-Psychologiques. Par MM. Baillarger, Brierre de Boismont, et Cerise. Published Quarterly. Paris: Victor Masson. (Received regularly.)

43. Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Recueil pratique. Publiée par le Docteur Debout. Published twice a Month. Paris. (Received regularly.)

44. Repertoire de Pharmacie. Recueil pratique. Par M. le Dr. Bouchardat. Published Monthly. (Received regularly.)

45. Archives d'Ophthalmologie, comprenant les travaux les plus importants sur l'Anatomie, la Physiologie, la Pathologie, l'Hygiène et la Thérapeutique de l'Appareil de la Vision. Par M. A. Jamain, Docteur en Médecine, &c. Published Monthly. Paris. (Received regularly.)

46. Gazette Médicale de Strasbourgh. Published Monthly. (Received regularly.)

47. Revue Thérapeutique du Midi, &c. Par le Dr. Louis Saurel. Published twice a Month. Montpellier. (Received regularly.)

48. Journal de Médecine de Bordeaux. Redacteur en chef, M. Costes. Published Monthly. (Received regularly.)

BELGIUM.

49. Annales D'Oculistique. Fondées par le Docteur Florent Cunier. Published Monthly. Brussels. (Received regularly.)

50. Nouvelle Encyclographie des Sciences Médicales. Publiée par une Société de Médecins. Published Monthly. (Not received.)

51. Annales et Bulletin de la Société de Médecine de Gand. Published Monthly. (Nos. 1 and 2, for 1854, not received.)

GERMANY.

52. Zeitschrift für rationelle Medicin; herausgegeben Von Dr. J. Henle and Dr. C. Pfeufer. Published Monthly. (Received regularly, except Vol. IV. No. 3.)

53. Zeitschrift der Kais. Kön. Gesellschaft der Aerzte zu Wien. Redacteur: Professor, Dr. Ferdinand Hebra. (No. 12, for 1853, Nos. 3, 4, 6, 9, 10, 11, for 1854, and No. 1 for 1856, not received.)

54. Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag. Published Quarterly. Karl André. (Received regularly.)

55. Annalen der Chemie und Pharmacie. Herausgegeben von F. Wöhler und J. Liebig. Published Monthly. Heidelberg. (Received regularly.)

56. Canstatt's Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern. Redigirt von Pr. Scherer, Pr. Virchow, und Dr. Eisenmann. Würzburg: Stahel. (Received regularly.)

57. Journal für Kinderkrankheiten. Herausgegeben von Dr. Fr. J. Behrend und Dr. A. Hildebrand. Published Monthly. Erlangen: Palm und Enke. (Parts 3 and 4, 1854, and 1 and 2, 1855, not received.)

58. Wochenblatt der Zeitschrift der Kaiserl. Königl. Gesellschaft der Aerzte zu Wien. Published Weekly. (Received regularly, except No. 5 for this year.)

PRUSSIA.

59. Archiv für pathologische Anatomie und Physiologie, &c., Herausgegeben von R. Virchow. Berlin. Published Monthly. (Received regularly.)

HOLLAND.

60. Nederlandsch Lancet. (Received regularly.)

NORWAY.

61. Norsk Magazin, for Lægevidenskaben, udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. Faye. A. W. Münster. Lund. Voss. Published Monthly. Christiania: Feilberg & Landmark. (Received regularly.)

SWEDEN.

62. Hygiea, Medicinsk och Pharmaceutisk Månads-Skrift. Published Monthly. Stockholm: Fritze. (Received regularly.)

ITALY.

63. Gazzetta Medica Italiana Federativa Toscana. Florence. Published Weekly. (Received regularly, except No. 3, for 1854.)

64. Bulletino delle Scienze Mediche. Publicato per cura della Società Medico-Chirurgica di Bologna. Published Monthly. (Received regularly.)

65. Giornale Veneto di Scienze Mediche. Published Monthly. (Numbers for April and May, 1854, not received.)

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THE DUBLIN QUARTERLY JOURNAL OF MEDICAL SCIENCE.

FEBRUARY 1, 1856.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*On the Operative Measures necessary in the Treatment of Hare-Lip.* By RICHARD G. H. BUTCHER, Esq., M.R.I.A., Surgeon to Mercer's Hospital; Fellow and Member of Council of the Royal College of Surgeons in Ireland; Examiner on Anatomy, Physiology, and Pathology thereto for five years; Lecturer on Clinical Surgery, &c., &c.

NUMEROUS cases of hare-lip, from the simple fissure to the most complicated forms, having occurred in my practice during the past few years, I am enabled to speak with some confidence as to the operative measures best suited for remedying such deformities; the attested fact that the appearance and expression of the individual for life, so calamitously afflicted, depends more or less on the perfect result of an operation, has made me, in an especial manner, direct my attention to the subject. There are several malformations, as Andral points out, differing widely from each other, and apparently presenting the greatest discrepancies in their specific characters, which may, nevertheless, be traced to one common source, imperfect development. Amongst these malformations may be enumerated the accidental openings and separations of parts which, in the natural state, are united and closed. These solutions of con-

tinuity are all situated in the median line, and proceed from an arrest of development. There is, in fact, a period in the evolution of the fœtus, when almost every organ is composed of two parts, separated by an interval which subsequently diminishes and fills up, as the fœtus approaches the full term of gestation. This gradual obliteration of the intervening space proceeds from the fulfilment of a law demonstrated by M. Serres, namely, that all the parts of the body are formed from the circumference towards the centre, and not, as was erroneously supposed, from the centre towards the circumference. Hence it follows, if the evolution of an organ be arrested at any time near the period of its first formation, the organs so arrested will in general be found composed of two parts, separated from each other by a certain interval. To this cause must be referred those cases which present a greater or less extent of deficiency in the parietes of the cranium, the spinal canal, the thorax, or the abdomen. The lips, when first formed, are, according to Beclard, Blumenbach, and Meckel, seemingly composed of as many distinct portions as there are bones in the corresponding parts of the osseous parietes of the mouth; and each of the intervals which separate these portions corresponds with the space interposed between the several bones, or at least between the several points of ossification. The upper lip then must at first be composed of four pieces, namely, two small portions in the middle corresponding to the two ossa incisiva, and two lateral portions of longer size, which correspond each to a maxillary bone. It appears that the two middle portions are very early united, as are also the ossa incisiva, and hence arises the extreme rareness of a hare-lip situated in the median line, although such a deformity may be easily conceived. On the contrary, the two lateral portions of the lip do not unite with the middle portion until a much later period; as this union does not take place at one or at both sides, the malformation called hare-lip will be either single or double. The lower lip never being composed of more than two pieces, and the earliness of the period at which these two portions are united, explain the extreme rareness of its congenital division; still further, not only may the lips be arrested in the progress of their development, and remain divided, but their evolution may even be suppressed altogether, in which case the whole interior of the cavity of the mouth is exposed to view. The mode of development of the face not only affords an explanation of the abnormal cleft palate, and the congenital cleft between the upper maxillary and the intermaxillary bones, but also serves to throw light upon those con-

genital fissures which pass between the intermaxillary bone and upper jaw, as far upwards as the orbital cavity. The face is originally formed of a middle portion proceeding from the forehead, Von Baer's frontal process, and of a lateral portion on each side, derived from the superior extremity of the first visceral arch. These parts are at first separate. The lateral and inferior parts, destined to form the superior and inferior maxillary apparatus, are both, according to Reichert, derived from the first visceral arch, in which an angular bend appears; the part above this bend being converted into the superior maxillary mass, and that below it into the inferior maxillary apparatus. The superior maxillary mass, in its growth, approaches the frontal process and unites with it, a cavity being left beneath that process and between the superior maxillary masses, which becomes the nasal cavity. By the union of the superior maxillary (the superior maxilla and palate bone) of opposite sides beneath this cavity, the separation of the nose from the mouth, by the palate, is produced. Attached to the elongated frontal or nasal process of the forehead, there soon appears the substance of the superior intermaxillary bone; whilst at the lower part of the visceral arch, from which the lower jaw is formed, a partly detached portion presents itself, which Reichert calls the inferior intermaxillary bone. It is not yet known whence the rudiment of the inferior intermaxillary bone is first derived; for although the blastema of this part is first observed between the nasal processes on the part of the face derived from the forehead, yet it is very possible for it to have been derived originally from the nasal processes themselves, and from the immediately contiguous superior part of the first visceral arch; the latter view appears to Müller more accordant with comparative anatomy, since the superior maxillary apparatus in its most complete form comprehends the os intermaxillare, the vomer, the os maxillare, and the ossa palatinum et pterygoideum. There would then remain merely the middle part of the face which belongs to organs of sense, and is attached to the anterior part of the skull, and this part, in the Plagiostomatous fishes, is united with the skull, whilst the parts belonging to the upper jaw are detached from it. On the other hand, however, there are facts in comparative anatomy which favour the contrary view; for the vomer, although it arises in the middle line, yet belongs to the general category of the maxillary apparatus and dentiferous bones. In man and mammalia its development is abortive, but in fishes and Batrachian amphibia it contains both. The intermaxillary bones, therefore, may very possibly, like the vomer, differ

entirely from the other parts of the upper jaw in their origin. Now in one of the complicated forms of hare-lip, in which the upper jaw bones and palate bones of opposite sides do not meet, the right and left intermaxillary bones are united, and, instead of being attached to the upper jaw bones of their respective sides, remain in the middle line; the cleft of the palate being prolonged forwards on each side, between the maxillary and the intermaxillary bone, so as to leave the latter with the incisor teeth suspended to the vomer.

In contradistinction to the opinion of Meckel and others, expressed in the foregoing observations, I may mention, Cruveilhier, Dupuytren, and Velpeau, regard such theory erroneous, as applied to the soft parts, and consider hare-lip to be, like many other monstrosities, the result rather of some diseased action; the latter indeed denies that the lips are formed of several pieces at any period of intra-uterine life; and indeed I may here state that I have never been able to observe in the fœtal mouth, even at the youngest period which it was visible to me, any deviation from a simple oval or circular form in the aperture; fortunately, in a practical point of view, as affecting operation, it matters but little how such differences are reconciled. Louis has pointed out an inference of considerable importance, did it maintain, namely, that the defect in hare-lip, whether it be single or double, is not accompanied by any loss of substance in the lip. My observation, however, does not confirm this deduction; such an expression is, I conceive, a play upon the words: there is not only a want of development in the fissure, but I have sometimes seen the lip thin, and, as it were, fined down to the edge; while I admit, in the great majority of cases, there will be found a fleshy and rather prominent margin, a condition which, whether it be the result of a shrivelling up of the textures, or actual thickening from disease, becomes highly advantageous to the operator, by enabling him to remove a considerable portion, and still find enough left wherewithal to make a perfect lip. I contend that the most judicious way of dealing with this subject is that by detailing cases, from the most complicated form to the simplest kind, describing accurately the condition of the soft and hard parts, and conjointly the practice adopted and best fitted in each instance; next making reference to the period of life at which the operation is most likely to be followed by a favourable issue and success; and lastly, the instruments used by different operators in its performance, and the modes prescribed by the most eminent.

Case I.—*Double complicated Hare-lip; Double Fissure of the Palate; Projecting Maxillæ, &c., successfully operated on at the age of two months, and cured with scarcely any trace of deformity.*

Christopher Sullivan, aged two months, admitted into Mercer's Hospital, under my care, April 11, 1853. He was the third child of a healthy and peculiarly handsome woman. The first and second children were well formed, strong, and robust.

Words cannot convey any adequate idea of the hideous deformity in this case. I must request the reader to examine the figure No. 1, in the first Plate—a glance reveals the true condition of the parts: the mouth and nose formed one large cavity, the hard palate being doubly cleft; the fissures were widely apart, particularly in front, owing to the abnormal gum on either maxillary bone standing almost straight forward, but were united behind, simply dividing the soft palate; the septum of the nose was thin and flexible behind, yet anteriorly it was considerably thickened; while, on the osseous tubercle, more in front, the central portion of the lip, developed beyond its natural size, was nodulated, as it were rolled up into two dense, rounded processes, the superior of which hung down suspended from the nose, being connected as far forwards as its apex. The edges of the fissured lip were thin and widely apart, so far so, that in no motion of the cheeks did they even nearly approximate; the red margins were scarcely discernible, the nostrils were widely expanded and flattened, being firmly united to the distorted alveolar border,—so far outwards were they connected, that a line let fall vertically on either side came but little within the angles of the mouth. The melancholy aspect of the little creature was greatly aggravated by its apparently starved condition; it was never able to take the breast, and was, therefore, dependent on artificial sustenance; with difficulty even small quantities of fluid, conveyed far into the mouth, were swallowed, as the greater portion at each effort was ejected through the upper part of the common oral and nasal cavity. Thus the child suffered materially from want of sufficient nutriment, so essential at this tender age; indeed, it was painful to behold the tenacity with which it would grasp the nipple and struggle to empty it, while equally rapid were all its efforts to swallow milk when placed in the mouth; but both these acts were faulty,—the first totally ineffective, the latter only partially salutary. It is not necessary further to dwell upon the unfavourable results, either in sucking or in

other functions; it would only be to add to the annals of the art, descriptions repeated a thousand times since Celsus transmitted to us a methodical description of this affection. Having retained the child in hospital, and supplied nutriment as much as could be taken, on the seventh morning after his admission, the 18th April, I proceeded to operate, after the following manner. The child was rolled up in a sheet, mummy-wise, and laid in the arms of a nurse, seated upon a high chair, the head being steadily supported against her left shoulder by an assistant behind.

Standing in front of the patient, I first proceeded to deal with the central piece in the following way:—A tenaculum being struck into its inferior part, and traction made upon it, all its attachments were carefully divided from below upwards, from the osseous projection behind, with a narrow-bladed bistoury, to such a point as to permit the tip of the nose to be elevated to the position it ought to occupy; the posterior surface then of this pendant double tubercle was thinned from behind, and its sides cut directly downwards in its upper half, while half the remaining portion was reserved in a triangular shape, the apex inferiorly; thus the tenaculum with the lower bit were cut out, from the sides of the upper half, reserved to form the septum of the nose. The bleeding was smart at first, but after a few seconds it ceased to give any annoyance. The prominent little tubercle of bone was nipped off, to permit the septum to rest evenly. The next step in the operation was to rectify the vicious direction of the gums, implanted into the widely separated maxillæ; by the assistance of a wire pincers, the blades of which were flat, and covered with a couple of folds of shamois leather, I was enabled not only to turn back the dense fibrous structure, but to snap across the bone where it was attached. This proceeding was effected on both sides. I then rapidly freed the lip and ala of the nose on either side from the bone beneath, so as to permit of their being brought fully forwards. The incisions, to effect this object, were necessarily very extensive. The knife during the separation of these parts was kept very close to the bone, so as to guard against hemorrhage from injury to any of the vessels supplying the cheek. The cleft lip was next pared, a tenaculum being introduced where the red border was most prominent in either half. The instrument on the left side was let rest in the hand of an assistant, while, taking that on the right in my left hand, and making the necessary traction upon it, downwards and inwards, marking well the commencement of the eversion of the mucous membrane, I cut off the red margin from a point com-

mencing about two lines above its appearance below to one a little internal to, but below, the attachment of the ala on that side, and where the mucous membrane and skin came in contact, the incision impinged a little upon the latter; a similar proceeding was executed on the left side. While these incisions were being accomplished, the assistant who steadied the head likewise made effectual pressure on the facial arteries where passing around the lower jaw; so that, on the whole, the hemorrhage was more an oozing from the surface than the quick jet which otherwise would be thrown out from vessels approaching the magnitude of the coronary arteries. Owing to the free liberation of the anterior part of the cheek on either side, and the alæ in conjunction with them, the parts came beautifully into contact. The effect of apposition of the sides of the pared lip produced a most marked elevation of the nose, particularly at its apex. This was all that could be desired. The dissected centre piece constituted an admirable septum, while its angular termination fitted the notch created above by the juxtaposition of the lip drawn from opposite sides, but did not pass down between them. The next point was to secure the several parts in their destined place, and for this purpose very long steel needles were selected; the first was introduced about a line outside the ala, on the left side, and on a level with it, and passed towards the right, transfixing the V-shaped extremity of the septum, and pinning it in its birth, and finally appearing on the right side, exactly opposite the point of entrance. The needle lay in a direct transverse course; a thread of thick ligature silk was cast around the extremities of the needle, but before the ends were crossed the flaps were pressed together, and, indeed, they glided rapidly towards each other on the long smooth needle; after this the cord was twisted several times, as in the figure ∞ form; the second needle, similar to the first, was introduced about a line above the free edge of the lip and three lines to the outside of the vertical incision; from this very low point it was pushed slightly upward and backward, so as to appear on the cut surface somewhat higher than the point of entrance; it was pushed on through the opposite side in a similar but reversed order, and brought out there at a point in the skin precisely in a line with the point of entrance; the ligature being cast around this needle in a way similar to the first; the parts when made to touch were found to fit with the nicest exactitude, giving to the red border a straight edge below, and forming the lip into a level surface in front. The portion of the wound intervening between the needles was in the slightest degrée apart; so

midway between each I introduced the finest cambric needle, and by a few turns of the twisted thread completed the perfect apposition of the cut surfaces. The projecting ends of the needles were then nipped off, and a small morsel of lint interposed between their stumps and the cheeks to prevent irritation; finally, the cheeks were well drawn forwards, and maintained so by a broad strap of adhesive plaster, narrowed, corresponding to the position of the needles, with slits cut corresponding to each, so that no pressure should be applied over them. Shortly after the operation the child fell asleep, and towards evening took the breast and some boiled milk with alacrity; on the succeeding days there was some little febrile disturbance, merely evidenced by heat of skin and restlessness, but nothing of any amount to excite alarm, or create apprehension as to the certainty of perfect union. So admirably united did the parts appear, that on the morning of the 21st I removed the needles, that is, fifty-six hours after the operation; having applied a little unguent to the ends of the needles, each was taken hold of in a close dressing-forceps, gently rotated, and then drawn out towards the left side, and in this way liberated from the coils of the twisted suture, which maintained their original position undisturbed. During this proceeding the head was steadily held and the cheeks pressed forward by an assistant, which prevented any undue traction upon the recent union during the struggles and crying of the child. In order to retain more fixedly the threads in their position, and to save them being detached by moisture, I applied a few layers of collodion over each with very excellent effect. A wide and long strap of adhesive plaster, shaped to the part, was made to take the place of the assistant's hands in holding the cheeks well forward; the child when released ceased to cry, and soon fell asleep. On the following morning the entire dressings were removed, and the union was complete. Nothing could be more beautiful than the pink line marking the bond of connexion between the parts of opposite sides; the central piece too, steadied its position to the cut osseous tubercle behind, while its inferior angle was steadily retained in the little space allotted to it, by plastic fibrine. A week after the operation, the wounded gums and parts inside seemed healed.

On the 30th of April the needle-marks were nearly filled up, and towards the latter end of the first week in May the child was dismissed from hospital, cured. He was brought back at the end of four months, and so great was the improvement in every way, that scarcely any one recognised him as the wretched, starved little creature which had been operated

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MR BUTCHER'S CASES OF HARE LIP

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on. At this time the drawing was made, from which the second figure in Plate I. is copied. The contrast between it and the first figure is most striking, yet not in the least degree exaggerated. The marks of the incisions were greatly obliterated, and the pink shade entirely dispersed. The lip seems a little tightened, and this is chiefly owing to the union being so perfectly completed, even to the very lowest part of its red border. Again, the effect is heightened by the state of the lower lip, which is rendered pouting, owing to the way in which the cheeks were compelled to come forward, and compensate for the loss above.

Case II.—*Single Hare-lip, complicated with widely fissured Palate; projecting Maxilla, &c.: successfully operated on at the age of tend ays, and cured with little marks of deformity.*

Bridget Russell, ten days old, was admitted to Mercer's Hospital, August 9, 1854. She was a miserably diminutive, little twin child, much smaller in every respect than her sister, who was born without deformity. The mother of these children was a young, well-looking woman—her features in every way regularly formed, and these were her first offspring, after being ten months married. Though the fissure of the lip in this instance was single, yet I doubt that the frightful appearance could be exceeded. The cleft was situated on the right side, and passed into the nose; and so wide was the separation that the two cavities were uncovered and exposed. The maxilla on the left side, with its hypertrophied gum, projected almost straight forward, while on the right side the maxillary bone was scarcely developed at all, and to this receding piece the cleft portion of the lip on the right side was intimately adherent, while considerably to the outside of the projecting left maxilla the corresponding half of the upper lip was adherent. The space between the bones, which was continued the entire way back, was sufficiently wide to admit the finger, and, by measurement, more than three-quarters of an inch across. The projecting maxilla, from its vicious direction, was further implicated by adding to the deformity in dragging the septum of the nose, which was adherent to it, forwards and to the left side. Thus the ala on the right side was spread out and stretched tensely across the upper part of the fissure. (See Fig. III., Plate 1.) When the child was brought to me it was almost starved; it could not suck, and with the greatest difficulty nourishment was got into the stomach; every act at swallowing was attended with the ejection of by far the

greatest part that was placed in the mouth; and the feeding of it was so irksome, that I am convinced had an operation not been put in practice, it would have died from inanition. The more favoured child suffered from slight fits after birth, and my little patient had one or two the day before admission. I administered small doses of gray powder, warm baths, &c. There was no return of the fits, and I attributed their origin to irritation arising from a confined state of the bowels. Two days being suffered to elapse, and as much nutriment thrown in as possible, I determined on operating; and on the morning of the 11th August, twelve days after birth, proceeded in this way. The child, enveloped in the folds of a sheet, was put into the arms of a nurse, and its head steadied against her breast by an assistant. I seized the projecting piece of maxilla, with the gum attached to it, far back, with the flat forceps described for a similar purpose in the case of Sullivan, and broke the structures sufficiently to make the part stay back. When so treated, it lay across three-fourths of the space between the nose and the mouth. The right half of the lip was next seized in a tenaculum, and drawn outwards so as to allow an extensive dissection of the right ala and corresponding part of the cheek from the bone behind. Several times the part was drawn forwards with the tenaculum, to make sure that a sufficient relaxation had been effected to allow of the ala coming near to the septum; this was essential for the restoration of the nose. The red and everted border was then very freely cut away with scissors, even to within the nostril, and the left half dealt with in a like way; the mucous membrane behind and attaching it to the gum, being divided where necessary. During these incisions great care was taken to compress the facial arteries in their course upwards, and indeed not a spoonful of blood was lost. The needles were next introduced—the lower one first, and in the manner particularly pointed out in the case of Sullivan. A second needle was passed from just beneath and without the ala, on the left side, to a point strictly opposite on the right; the parts, by gentle lateral compression, glided evenly along the needle, and were kept in situ by the twisted suture; the depressed gum and maxilla formed a steady support behind. The entire wound lay in contact, so that the third needle was here dispensed with; however, I put a point of the interrupted suture on the inside of the red portion of the lip, to prevent the child's tongue from irritating and making it gape; broad straps of adhesive plaster were put on, with the object of retaining the cheeks forwards, as described in the foregoing case.

12th. Since the operation the child has frequently taken the breast and nourishment from a spoon, and has slept at intervals quietly; she does not suffer pain, and there is but little swelling of the face.

13th. The slight swelling which was present about the mouth on yesterday is nearly gone, and the child takes abundance of food, little being now rejected by the nose.

14th. Removed the needles to-day, seventy hours after the operation; the twisted threads likewise separated; the union was perfect throughout. During this proceeding the cheeks were carefully and gently held forwards; small morsels of dressing were put on the needle apertures, and broad straps of plaster applied to hold the cheeks forward, and take all stress off the new union. On the 21st the marks created by the needles were all healed, and the friends of the child scarcely recognised it, so thoroughly was the deformity removed. (See Fig. IV., Plate 1.) Even at this time there was a marked improvement in the temper and condition of the child; for days it was able to take as much nourishment as its wants desired, and the beneficial soothing effects produced by uninterrupted rest, materially contributed to the marked constitutional amendment. In this instance, soon after the birth, the projecting maxilla and gum were broken and thrust backwards, so as to take as nearly as possible the range which the alveolar arch ought to take. I have adopted the same line of treatment in more advanced life with the same fortunate results, even when the permanent teeth were fully formed. Case v. offers a good illustration of the practice.

Case III.—*Double Hare-lip, complicated with double Fissure of the Palate, and extensive centre-piece projecting forwards with the Incisor Teeth; successfully treated by a new Operation, at the age of one year and seven months, and cured with little marks of deformity.*

Sarah Byrne, aged one year and seven months, was admitted into Mercer's Hospital under my care, October 14, 1854. She was the seventh child of a healthy countrywoman: the previous children were all well formed and in robust health. The deformity in this instance was very prominently marked, particularly when the child's face was distorted by crying; even when the features were at rest the deformed chasm created between the mouth and nose allowed the tongue to hang out. The bony parts presented a very rare arrangement: the palate was doubly cleft, and the maxillary bones, far from being promi-

nent in front, receded rather, and passed inwards as if deprived of support in the mesial line, while the intermaxillary portion of the upper jaw on either side, out of which the front teeth grew, was detached from the rest of the alveolar arch widely, and projected almost directly forwards; this portion of bone was fully half an inch, if not more transversely, connected behind by a slender stalk to the vomer; in its most prominent anterior part the milk teeth were well formed, while laterally it was coated by the dense gum. Now, in accordance with this unusual distortion of the bones, were the soft parts equally astray: the nose was widely expanded, that is, its alæ were far apart and flattened, the centre of the bridge was greatly depressed, while the tip of it was thrust up by a dense oval flap, fully three-quarters of an inch across and somewhat more than half an inch in the vertical direction, and as deep, interposed between it and the deformed central portion of the maxillæ; no motions of the face could cover the projecting gum or the central piece, or close the mouth beneath, while the fissure on either side was almost sufficiently approximated to conceal the deformity; within the cleft lip was well developed in its lower half on either side; while above, the portions were thin, spread out, and widely apart, and firmly united to the maxillæ; their red prominences below could, by great traction, be made to meet, but if they did so it was far behind the projecting central piece and teeth; the lower lip, owing to the relaxed and unsupported state of parts and gap above, hung down in rather a flaccid way, and the saliva was constantly streaming from the mouth. Altogether the child, the upper part of whose face was more than ordinarily interesting and pretty, presented an appearance singularly hideous. The figures, Nos. 1 and 2, Plate II., are accurate representations of the full face and profile, from drawings taken by the faithful pencil of Connolly. I had the profile taken in this instance as being absolutely necessary to give a just idea of the relation of the nose, the projecting central portion of the maxillæ, and the superimposed central piece. It accurately shows the convex course of the fleshy portion of the fissured lip, while it equally illustrates the thinned and angular arrangement of it above, where, meeting with the ala of the nose, both lie matted to the maxillary bone. The protrusion of the tongue, and the pendant state of the lower lip, already adverted to, are faithfully designed.

The child did not at all make the same exertion to swallow, neither was the food ejected from the mouth in even nearly so great a quantity as in the case of Sullivan, which I attributed

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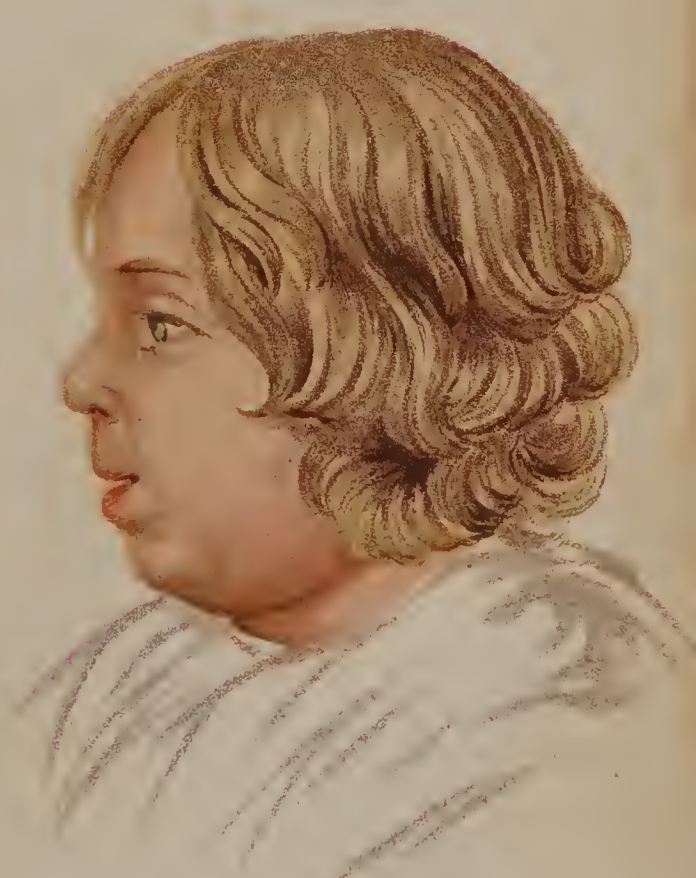
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to the peculiar way in which the maxillæ with the hypertrophied gum on either side were turned behind the lateral margins of the projecting central piece, thus offering an obstacle to the escape of nutriment when contracted upon in the act of deglutition. The appearance of the child bore evidence to the fact of a full supply of nourishment being received and appropriated to the wants of the system, but it had to be artificially supplied from birth. The limbs and body were well formed, and fat largely deposited everywhere: indeed, the child exceeded, if anything, the weight usual at her period of life.

It was obvious that the arrest of development, to which this deformity is attributable occurred in the lateral elements of the maxillary bones, and, in all probability, may be traced to some congenital defect in the supply of blood, seeing that the upper jaw obtains the vital fluid by different sources: that portion containing the incisor teeth from the infra-orbital or long palatine, and the region of the molar and tricuspid from the dental branches of the internal maxillary on either side.

On the 18th of October I operated in the following way:— The child, being rolled in a sheet, and placed in the arms of a nurse, an assistant standing behind steadied the head against her left breast, I struck a tenaculum into the lowest part of the central piece of the lip and rapidly dissected it from the prominent bone behind; this I required to do up to the very apex of the nose, so intimately attached was the bone in this direction; this soft piece being liberated with the bistoury, I cut away its convex sides to fully two-thirds of its length, preserving between the lateral incisions a sufficiency for the proper breadth of the septum, and terminating in a triangular form. The most difficult part of the operation was in reference to the management of the prominent piece of bone; it was only attached posteriorly by a narrow stalk, yet I could not bring myself to take it away; it could not be thrust back, for the maxillary bone with distorted gums was turned in behind it, and offered an obstacle in such a direction; again, there was great danger, if the osseous stalk was broken across, that the piece would fall down towards the mouth, having nothing to sustain it. After some consideration on the matter for days before, I planned a novel method of dealing with it, which answered effectually: it was after this manner,—with a strong sharp scissors I shaped the projecting piece of bone and the dense gum attached to it into the form of the key-stone of an arch, narrower below than above, by slicing its sides, and next, with the same scissors, cut away the distorted gums and the edges of the maxillæ behind to the same form; this being ef-

fected there was no obstacle to thrusting back the bone containing the incisor teeth, and there was no objection to fracturing the stalk, for the supply through the soft part was sufficient for its nourishment, while it could not fall down owing to its wedge-shaped form. This proceeding, as I had conjectured, much facilitated the approximation of the cleft lip; yet wide and extensively the mucous membrane required to be divided, and the cheeks detached from the maxillæ, particularly where the alæ of the nose lay imbedded in them, to enable me to draw forwards all that was required to construct the lip from almost the lateral pieces only, for the central portion of the lip was appropriated to the formation of the septum; besides, I did not wish to retain much of it between the side pieces, lest the nose should be drawn down and depressed by such a connexion. The lateral pieces of the lip were each seized in the most prominent part of their red border with a tenaculum, and the scissors commenced by cutting on each side inferiorly, so far towards the corners of the mouth as to remove entirely the rounded angles, which were very prominently present in this instance, and continued the incision about two lines to the inside of the ala on each side within the nostrils. Thus the soft parts were extensively liberated, pared, and freshened for adhesion, while the mode adopted for retaining them *in situ* to permit a permanent bond of union was very nearly similar to that employed in the case of Sullivan, No. 1. The first needle was made to enter a little outside and on a level with the ala of the left nostril, and made to pass from left to right; care was taken to shove well up the piece shaped out for the septum, so that no drag should be made upon the tip of the nose; this being so arranged, the needle transfixed it at its widest part, just above the base of its commencing angular form. In piercing it I was sedulously careful that the needle should lie within a line or so of the skin covering this central piece; when so transfixed the point of the needle was again dipped deep to pierce the right half of the lip close to the mucous membrane, and to appear outside the right ala opposite to the point of entrance in the left cheek. A few turns of silk were thrown around the extremities of the needles in the way of the twisted suture, and the parts gently drawn together, at the same time that an assistant gently pressing forwards the cheeks, made them glide more equally and smoothly in the proper direction. The second needle was entered at the junction of the red border and the skin, fully half an inch external to the cut edge on the left side, and close to the mucous membrane in a direction transversely and a little upwards until its point ap-

peared in the fissure; it was then turned with the same degree of obliquity and depth through the right half of the lip from within outwards, piercing it externally opposite to and at the same distance from the margin as on the left side; while the needle was made to describe this somewhat semicircular movement, with the index finger and thumb of my left hand I gently drew down the mucous membrane, or rather everted the portions of the lip included between the point of entrance and exit of the needle; thus, the centre of the lip was rendered a little fuller than it otherwise would have been, and more relaxed, a very important feature in contributing to perfect adhesion to the very edge of the prolabium; a few turns of twisted suture fixed the needle. Owing to the manner in which the first needle traversed superficially the septum near its base, and from the semicircular course it described through it (convex forwards), a slight depression externally marked its direction, proving that a certain amount of force was drawing it backwards. Now, this had the effect of making the angular piece start forward from between the lateral portions, but, by a little management, it was got back into its place and fixed there by a fine needle passed from side to side in a similar manner to the others, but lying more superficial, the silk when passed across the needle completed the restraint. A wide, long strap of adhesive plaster adapted to the part, with apertures in it, so as not to exert any pressure on the needles, was then put on, with the intention of keeping the cheeks forward, thus lessening muscular traction on the needles, particularly during the crying and restlessness of the child. Very little blood was lost, not more than one or two jets from the coronary arteries, and a small quantity from a general oozing; on the parts being placed in apposition and the dressing completed, all weeping ceased. The child bore the operation well, but in about an hour after became very restless and cried incessantly; I therefore administered small doses of opium to procure rest, and with the best effect; after a few doses the little creature became composed and fell into quiet sleep, in which she remained for several hours; on awaking she took some boiled milk, and went off again to sleep.

20th. Doing most favourably, no undue inflammation about the wound; the child sleeps and takes food with appetite.

21st. On this morning I withdrew the needles, seventy-two hours after the operation, and the union was perfect throughout, some slight ulceration appeared at the side of the septum, just at its junction below with the thrust back central piece of bone; to this the nitrate of silver was applied, which, on the

third application, aroused a healing process that required no additional interference; wide straps of adhesive plaster shaped to the configuration of the parts were put on to restrain muscular movements of the cheeks and to support the recently bound together parts. The twisted threads upon the suture were suffered to remain, and fixed there, as in the case of Sullivan, by the application of collodion. On the 24th all the dressing came easily off, and the appearance of the lip was very satisfactory; the various divisions of the parts were united throughout, and the central bony piece was steadied in its berth by plastic fibrine. The power of swallowing was greatly improved, and no fluids flowed through the nose. On the 29th the internal parts were entirely healed, and also the wounds inflicted by the needles. On the 16th of November, a month after operation, the drawings were made, from which the figures Nos. 3 and 4, Plate II., have been carefully copied. No words can describe the improved appearance of the little creature, and even the drawing, so admirably and faithfully executed by Connolly but faintly conveys all that surgery had done for this deformed child of nature: the entire countenance expressed an animated, quick intellectuality; the nose was sufficiently prominent, and harmonized well with the contracted but expressive condition of the mouth; the profile of the child was likewise pleasing, and is graphically copied, and it also shows how well the septum was created, and how accurately it was pinned into its proper berth so as not to drag down or distort the nose. Owing to the measures put in practice, the full roundness of the lip has been preserved, and the projection of the lower is but little apparent or beyond its fellow. On the 20th of November the child was taken from the hospital.

Case IV.—*Double Hare-lip, complicated with an entire absence of the Intermaxillary portions and Palate of the Maxillæ, the Septum resting upon the Tongue, with the Maxillæ and Teeth distorted forwards and upwards, operated on at the age of six years.*

Susan Bryan, aged six years, was admitted into Mercer's hospital under my care April 17, 1854. She was the third child of a healthy mother, the two former were favourably proportioned. The unsightly appearance of the infant, and its inability to suck, made the mother desirous for an early operation, but the child was rejected by all who had seen it, so great was the deformity, until a riper age was attained. Thus passed over, week after week, month after month, and year after year, until I saw her on the above date, the mother all the time being

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led to solace herself that accumulated strength was obtained by this delay, and a more hopeful chance of recovery and success. Altogether the case was a disheartening one. (See Fig. I. Plate 3, taken from a drawing carefully made by Connolly.) The separation between the maxillæ was, by measurement, an inch and a half, and not only this, but the edges of the bones with the early teeth looked forwards and somewhat upwards. The nose was widely expanded, its apex completely depressed, and the alæ nasi dragged on the same plane to either side and fastened to the upper angles of the receding maxillæ; from the centre of the organ hung suspended the irregularly nodulated septum, which, having no attachment below, rested upon the dorsum of the tongue; the entire of the palate plates of the maxillary and palate bones being defective, the oral and nasal cavities were thrown into one irregularly formed chamber. There was a constant restlessness about the mouth not usually witnessed; the tongue, which was inordinately developed, was ever in motion; while if for an instant the attention of the child was arrested, it protruded from the mouth and blocked the apertures, save a small space above, beneath the nasal arches. During the act of mastication the motions of the tongue were very remarkable, in rolling portions of food about the cavity and absolutely restraining it from passing into the upper part of the nasal cavity, though it could not prevent lodgments between the cheek and the alveoli, which constantly had to be removed by the child sweeping the entire alveolar range with her finger; no matter how slowly mastication and deglutition were performed, this additional agent was called into requisition; the child could speak but very indistinctly, and every sound had a guttural tone. Contrasted with this hideous deformity, the upper part of the face was peculiarly beautiful, the forehead being delicately white and well developed, the eyes of deep purple, reflecting every object, and expressive of that sweetness, gentleness, and love, only to be witnessed in childhood. The operative procedure in this case was somewhat different from either of the former: as in the former instances, the child was rolled up in a sheet, the arms being well secured, and then placed in the arms of a strong assistant, with the head supported against his shoulder and maintained there by a second assistant standing behind. With the forceps already described I seized the projecting edges of the maxillæ and bent them back, fracturing the anterior layer of the bone. I next passed beneath and behind the central fleshy piece a bit of flat wood with an angular cavity cut in it; the narrow part of this space readily received the septum behind, while the nodules were

supported on the flat surface, thus a resistance was obtained sufficient to enable me to shape the part so as to fit into the angle created by the apposition of the lateral portions.

The next step in the operation was to free the cartilages of the nose, the alæ nasi, from the firm attachment to the distorted maxillæ. This, too, was done by careful and repeated strokes of a fine bistoury. When accomplished, the mucous membrane being divided a little lower on either side, there was no obstacle to the lips being brought sufficiently forward. This being ascertained, the rounded edge of each lip was secured in the tenaculum, and nearly the entire of the everted reddened margin excised with the scissors to a point within the curve of the cartilages of the nose. Three needles were used in this instance to secure the parts. The first was made to enter outside the ala on the left side, to dip under its lower margin; and having appeared in the nostril, the septum was shoved up to its full height and transfixed; in like manner it passed beneath the right ala, when it appeared externally in a perfectly transverse course. After this needle took its place, the nose was well supported, and the uniform margin of the septum merely rested on the tongue instead of being turned upon it, as before this proceeding; a few turns of the twisted suture were made, and the parts, nicely adapted, lay together. The second needle was placed close to the red border of the lip, and made to describe the same peculiar semicircular course already alluded to; and the lower angles were everted and dealt with as in the case of Susan Byrne. The silk ligature retained the needles. A third needle, a fine cambric one, confined the inferior angle of the septum in its place, between the lateral portions; it did not descend low; the cicatrix of the lip was, therefore, a single straight line, not Y-shaped, as is customary in cases of the so-called double hare-lip. In addition to these, a stitch of the interrupted suture was put on the inside of the lip, to prevent the tongue interfering with the union. The ends of the needles were then clipped off, the cheeks being retained forwards by broad adhesive straps, after the manner already recorded. Shortly after the operation the child became restless; five drops of laudanum were administered, which had the desired effect of inducing sleep. In the latter part of the day, after awakening from sleep, she took some chicken broth and milk.

April 20th. The following is the report:—Child slept quietly all night; this morning took its milk and bread, and through the day quantities of chicken-broth; is quite lively and cool; some swelling, but no redness about the mouth;

towards the latter part of the day particularly cheerful, and indistinctly asked for bread.

21st. The child slept quietly all night, and when seen by me in the morning was lively, and appeared going on most favourably; it ate its breakfast without suffering much pain. On this day erysipelas made its appearance in the ward, and the child, during my absence, for safety was removed to the ward in connexion with the operating theatre, in which it lay before the operation. From this period the child became silent, concealing itself under the clothes, and timorous of everybody; and though stimulants were given, and warm broth freely,—the child towards evening, when I saw it, was removed from the ward,—yet prostration went on, and she died at 11 P.M., with all the quietness of going to sleep. I have no doubt whatever the child died from fright, the little creature being, as the nurse afterwards informed me, in dread of a repetition of the operation. I made a very careful examination of the body, but could find no changes or traces of inflammation to account for death; there was no swelling or œdema of the back parts of the mouth, or any alteration within or in the vicinity of the windpipe; a healthy process of inflammation had extended through all the incisions, and plastic fibrine agglutinated them together, while beyond their immediate bounds there was no transgression. On instituting this inquiry, the hypertrophied state of the tongue was truly remarkable. I have before alluded to this point, as well as the restless activity it displayed during the act of deglutition, but the full size of the organ was only strictly displayed in this after-death investigation; it nearly attained the size of that in the adult subject; no doubt, this increased volume must be ascribed to it, as taking on the part of a compensating organ. I do not think the bulk of the tongue interfered with a sufficient quantity of air being admitted to the lungs, yet the child always kept the mouth open, and it slightly protruded. I can conceive, however, such an interference with respiration possible, certainly so, if the organ was larger in proportion to the mouth than in the present instance. In the present case there was no difficult respiration, no symptom indicating a non-aerated condition of the blood, and no post-mortem evidences confirmatory of such a state. After death I took a very beautiful cast from the child's face, showing how the changes in the deformed mouth were rectified by the operation. Figure 2, Plate III., has been drawn from it by the faithful pencil of Mr. W. Foster; and surely it will be admitted that surgery, that art, has corrected and beautified nature.

Case V.—*Single Hare-lip, complicated with widely fissured Palate; projecting Maxilla; successfully operated on at the age of thirteen years.*

W. M., a fine, healthy boy, aged thirteen years, was brought to Dublin for my opinion early in the past summer. His parents were in great distress relative to the frightful deformity with which he was allowed to grow up. The boy himself had sufficient sense to reason fairly upon the matter; and after explaining the circumstances to him, he pressed very urgently for an operation. On examining the case carefully, there could be no doubt that a well planned operation would rectify matters in a very satisfactory way. The figure, No. III., Plate 3, gives a true representation of the parts. The cleft in the lip was an inch wide, and passed into the left nostril, while the palate was deeply fissured, with the intermaxillary bone and maxilla on the right side standing prominently forwards through the gap in the soft parts; the incisor teeth were fully developed and set in this projecting bone; the left nostril was flattened and expanded, being adherent to the non-developed maxilla on the left side. The lip on this side, too, was short, and the cleft in a vertical line from about two lines within the margin of the ala downwards, while the right half of the lip was forced forwards even to a level with the tip of the nose, at the same time everted more than half a turn. On the following morning I operated upon the boy at his lodgings; much after the manner described in the case of Russell (No. II.), there being a great analogy betwen the cases in more respects than one. The projecting piece of bone was seized in the flat forceps at a considerable distance behind, and then bent forcibly back at the same time that a rotatory motion was given to the instrument, by which the bone was snapped across with an audible noise; the teeth were left undisturbed, and the gums and soft parts were uninjured by the covered blades of the forceps. After being thrust back, it remained well in its position, and I proceeded to detach the lips and clip them very freely with the scissors. Needles and sutures were put in with the exactitude already dwelt upon, and adhesive plaster applied to fulfil the intentions before insisted on. After the dressings were complete, nothing could offer more promisingly for a favourable result. The boy bore the operation with the greatest heroism, and favoured my views by observing the strictest quietude and rest. Yet, on the second day, the needle next the red border of the lip showed a disposition to cut its way out. Having the cheeks well sustained forwards, I withdrew this

needle, and inserted another close to the position, about a line above it and more to the outside about two lines. This manœuvre gave a fresh hold; and when the silk was cast around it in the figure of ∞ form, the surfaces coated with lymph lay fairly in contact; to complete the border and compel union, I put a point of the interrupted suture in it with the finest needle. In seventy-eight hours after the operation, I removed the needles, and union between the parts was accomplished. In three weeks after being cut, all marks of the needles had passed away. A short time since I had the pleasure of seeing this young gentleman, and I was greatly gratified at his appearance; a few white lines marked the course of the incisions, and the sides of the face were exceedingly regular. On examining the interior of the mouth, the bone where broken across was solidly united, and the piece with the incisor teeth kept the position into which it was forced. When the boy smiled, the teeth were seen in their regular arch; and altogether, his aspect, I can say, was prepossessing. (See Fig. IV., Plate 3.)

Case VI.—*Single Hare-lip successfully operated on at the age of two years and three months, cured with scarcely any trace of the malformation.*

James Bell, aged two years and three months, a fine healthy boy, the subject of simple hare-lip, was admitted into Mercer's Hospital, January 1, 1855. The parents were both handsome, and had four children; this little fellow was the youngest, and the only one disfigured. A wide, gaping fissure existed in the upper lip, its sides were unequal, owing to an obliquity in its course, terminating in the left nostril, and commencing to the right of the median line. On the 5th of January I operated in the following way:—The child being firmly enveloped in a sheet, and held in the arms of an assistant as in the former cases, I freed the attachment of each side of the lip from the bone, particularly where they met in an angle within the nostril; this being satisfactorily accomplished, I secured the right half of the lip by the tenaculum, and cut off the entire of the everted and reddened margin with a curved scissors, made expressly for the purpose. A similar proceeding was executed on the left side. Owing to the unequal lengths of the sides of the fissure, the right being the longest, it was first cut, in order that the exsection of the margin of the left half should be strictly the same length, otherwise they could not accurately correspond when applied evenly from the acute angle above; the longest side would not meet fairly the

red border of the other half, it would hang lower, and therefore substitute another deformity. However, from conducting the division of the parts as I have mentioned, two somewhat elliptical incisions were made, thus ⋀. A needle was then introduced on the left, about three-quarters of an inch from the divided edge, and just at the union of the skin and red border of the lip, and made to travel in a semicircular course to a point opposite to that first transfixed, according to the principle already laid down in the complicated cases mentioned. A second needle was introduced transversely, fully three lines below the alæ nasi, so as to bear upon the curve of the incision, its point of entrance and exit being on the same line as those of the first needle; around each a silk cord was thrown in the figure of ∞ form, completing the twisted suture. On drawing together the parts, surface to surface, it is clear that the lower or red border of the lip was made prominent; to prevent gaping behind, a stitch of the interrupted suture was inserted. There was another expedient I put in practice here, which I believe to be original. After cutting away freely the everted borders into the nostril with a scalpel, I shaved off the gum and the mucous membrane from the lip, just at the angle of junction, favouring a union between these raw surfaces, thus diminishing the tendency to retraction of the cicatrix, as is supposed by some pathologists to take place after the lapse of years. The ends of the needles being clipped off, the cheeks were then supported forwards by wide adhesive straps, adapted and planned as in the foregoing pages recorded. On the 6th, the report was that the child slept all night, waking only to take refreshment; thus the case went on most favourably. On the morning of the 8th I withdrew the needles, seventy-two hours after the operation, and cut out the stitch behind; up to this period they were fulfilling their object in the part, without creating any annoyance; there was but little swelling occasioned by them, and no inflammatory action more than requisite for union. On being withdrawn, the adhesion was perfectly accomplished throughout, and the indentation above the red border of the lip was developed. Though the union was fairly accomplished, yet bands of adhesive plaster were reapplied to maintain the cheeks forwards, and paralyze all muscular movement of the lip. On the 23rd, the openings resulting from the needles were also healed; and on the 28th the child was dismissed, with but little disfigurement, a thin line only pointing out the interference of the surgeon.

Case VII.—*Simple Hare-lip, complicated with a very remarkable arrangement of its parts; successfully operated on at the age of six weeks, and cured without deformity.*

I select this case from amongst many, as presenting some features peculiar and different from what are usually met with. The case occurred in private practice. The child was a female, the fourth born of an exceedingly handsome lady; all the other children were well developed and robust. The little patient was not six weeks old when sent from England for my opinion during the past summer. The condition of the upper lip was very peculiar: a short but wide fissure cleft the lip through its red border and for a short distance higher, in all half an inch. Wide and gaping to a like extent was the separation, while continued upwards close to the nostril was a sulcated seam, the right side elevated above the other, more prominent, and on the whole better developed. Thus, though the absolute cleft was small, and a good deal concealed when the child laughed, yet when the features were in repose, the deformity was very conspicuous. On turning up the lip and examining it carefully, a white line shining through the mucous membrane marked its course, while the latter structure lay smooth and polished over it. It absolutely had all the appearance as if nature had repented of her error, and too late put forth every endeavour to seal the part. The ala on the left side was also drawn down or depressed. In the operation it was necessary to prolong the incisions into the nostril, excise the seam together with the margins of the cleft lip, and at the same time raise the ala from its deep attachment. Two needles were necessary for the retention of the parts, and two points of interrupted suture, one placed between the needles, the second one on the inside of the red border of the lip. The needles and points of suture were removed sixty-seven hours after the operation, the threads, in the form of the figure of ∞, being allowed to remain, and their adhesion assisted by the application of collodion. On the following morning the threads readily came away, and nothing could be more perfect than the union from the very angle above through the entire extent and depth of the lip to the mucous membrane covering in its red margin. Before and behind all was accurately united, and in a week after, the needle-holes were filled up and healed, the cicatrix being pale and not conspicuous to the observer when standing a few feet from the child.

CASE VIII.—*Simple Hare-lip, successfully operated on at the age of twelve months, and cured without deformity.*

Joseph Doyle, aged twelve months, a fine healthy boy, admitted to Mercer's Hospital, May 22, 1854, with simple hare-lip. The fissure was almost perpendicular, and separated the lip nearly into the left nostril; it was a wide and gaping fissure, creating much unsightliness. On the 24th I operated on the child in the following way. He was rolled in a sheet and steadied in the arms of a nurse, the head being held by an attendant. Having freed the cleft parts by freely dividing the mucous membrane within the mouth, I transfixed with a tenaculum each side of the fissured lip nearly at the point outside which the scissors was to cut; the two instruments were then supported by assistants; taking one after the other in my left hand, and making the necessary traction, each everted portion of the lip was excised with the straight scissors. Two needles were employed for bringing the parts together; the lower one was introduced first, and made to enter just at the junction of the mucous membrane and skin, three-quarters of an inch from the cut edge on the left side, and to pierce the lip obliquely backwards and upwards so as to appear on the inside of the half transfixed, about two lines higher and three closer to the mesial line than the point of entrance. The needle was conducted through the right half in the same way reversed: thus, about half an inch of the needle lay internal to the lip at its lower part, the silk cord was thrown round it, approximating the edges, and the upper needle put in transversely about the centre of the lip, according to the rules laid down, and fastened in a similar way. When each was settled, perfect adaptation of the cut parts was insured, and the lower needle behind the red border of the lip prevented effectually the child thrusting her tongue forward, and interfering with the growth of the parts together. In fifty-eight hours after the operation the needles were removed, and after a few careful dressings the child was dismissed from hospital, with scarcely any trace of the original malformation, the lip being accurately united to its lowest margin.

I do not consider it further necessary to multiply cases. Amongst the foregoing will be found most of the complications which usually attend hare-lip; the mode of operating and conducting each to a favourable issue has been carefully entered into; yet there are some points in reference to general rules which I must more minutely dwell upon: and first with regard to the period of life at which it may be considered most fitting

and safe to undertake the operation for the cure of hare-lip. Many contend that it is better to wait until the individual is conscious of the deformity, so as to enlist his acquiescence in promoting the views of the operator. It has also been thought that at this advanced age the parts are better able to hold the needles; they are more adapted for union; and abstinence from food can be borne with better than at a tender age; and that it is very desirable the dangers of the first dentition should be passed over, together with the liability to convulsions. There are a host of great names in favour of delay. Sir A. Cooper fixes the time when dentition is completed, or the age of two years, as the most advantageous. Mr. Liston considered it advisable to delay interfering until the child had attained the age of two and a half or three years, or at all events until the greater number of the temporary teeth have come through the gums; he lays down the period from "two to four years is certainly the time to be preferred." Syme also waits until the child has at least attained the age of two years. If the first six months are passed over, Velpeau prefers waiting until the tenth or fifteenth year. Chelius writes—"Although experience has shown that the operation may be successful in very young children, it is, however, better to delay it until eight months; only when wolf's jaw is connected with hare-lip, and the child cannot suck, may the operation be undertaken within the first six months; in children of two years, operation may be delayed till they have become intelligent." Mr. South, in commenting on this passage, says—"I do not think even eight months is sufficient age for the performance of this operation. Early operation is objectionable, because sometimes the child's crying more or less tears the new adhesions, and an ugly notch remains in the lip; or, what is still more important, it produces dangerous fainting from the loss of blood, or subsequent convulsions, which are only checked by the removal of the threads and allowing the original gap to be reproduced. It should not, therefore, be lightly undertaken in very young children, as it exposes them to much danger. I would never perform it before two years old; but if the parents can be persuaded to wait till the child is six or eight, it is preferable, as the lips, being thicker and larger, and the child being capable of understanding the advantage of keeping quiet for a few hours, the operation is more successful, and a better and more even lip is formed"[a]. Dupuytren deemed it unsafe to operate on new-born children, because their flesh is so soft that the pins

[a] Chelius, by South, vol. i. p. 596, *note*.

readily cut through it, and because general mortality, independent of every particular cause, being at this age greater than at any other period of life, it would be imprudent to augment the chances of death which hang over the young being by an additional one resulting from the operation. On the whole, he infers that the best period for operating is when the infant is three months old[a].

I shall next consider these objections, and see what advantages originate from early operation. As to enlisting the acquiescence of a child to suffer pain, from the time that it is able to appreciate danger to the age of eight or ten, this may be looked on as romantic and visionary. How can a child at this age realize the hopes of benefit, from the very moment that it is hurt by an operating instrument? According to my experience, it becomes the most unmanageable of all patients. It has been urged that the flesh of the young infant is not so susceptible of healing as at a later age. I cannot agree in this; neither do I believe it to be correct, for I have seen wounds inflicted almost immediately after birth cicatrize with amazing rapidity; further, we have a striking example of the reparative powers of the fœtus in utero, as called into existence under certain circumstances. I allude to that pathological lesion, in which portions of the limbs of the fœtus are removed by a process which has been, with propriety, denominated spontaneous amputation. Chaussier[b] mentions having examined two cases in which separation of a part of the forearm had taken place before birth; and in a third case he found the separated portion of the arm and hand lying apart, *and the stump of the limb healed.* Other cases similar in result to this are published; a most interesting one by Dr. T. West[c], in which the child was still-born, with but one leg; the other limb exhibiting positive proof of having been spontaneously amputated some time before, the stump being *partially healed and nicely rounded*, about an inch and a half below the knee. I have in my collection two casts confirmatory of this matter. In the Catalogue the first is noticed thus:—"Cast No. 187, congenital deformity, and amputation of the fingers in utero by lymph bands. The child was born healthy, and otherwise well formed, if we except the condition of the fingers and the club feet. The casts were taken immediately after death, on the fifth day; on examining the hands, the right one was more expanded and flattened than natural. In the thumb, the index,

[a] Chirurgie Clinique, tom. iv. p. 90–92.
[b] Discours prononcé a l'Hospice de la Maternité, 1812.
[c] London Medical and Surgical Journal, 1832, vol. i. p. 741.

middle, and ring fingers, there was apparently an arrest of development, while the little finger on the same hand was normally formed; the index finger seemed likewise bifid, or, more properly speaking, grooved on its upper surface, but the groove did not pass deeply through its structure; the middle finger occupied a space palmar to the line of the others, and was also shorter; the arm was perfectly formed. On examining the left hand immediately after birth, a band of dense, adhesive, elastic lymph, very narrow, was twisted round the centre of the index finger, so as to entirely destroy the central phalanx, and give the finger a shortened appearance. The middle finger of the same hand had been amputated in utero, *as the cicatrix manifested plainly*; the ring finger was also encircled by it; it was deeply cut by the constricting cord, so as to produce sphacelus; this finger was abnormally formed, being much longer in the second phalanx than any of the others. The bands of lymph then passed, after strangling to death the ring finger at the junction of its first and second phalanx, to the unguinal phalanx of the little finger, which was shrunken, withered from the constricting force exerted upon it. This latter finger, like the ring finger of the same hand, was preternaturally long."

Cast No. 188 affords an illustration of the same fact. It is headed, "Congenital Talipes Varus of each Foot, and Amputation in Utero of the Toes by Lymph Bands." This cast was taken from the same subject as the previous one. "Both feet were affected with varus; the right foot had the third toe imperfectly formed, applied, and joined to the second; the fourth and fifth had been both amputated at the junction of the unguinal and second phalanges. The leg was otherwise well formed. The left foot had the great toe amputated at the metacarpo-phalangeal articulation, and the second toe imperfectly developed and united to its outer side; the third, fourth, and fifth toes amputated at the articulation of the unguinal and second phalanges. These results were quite manifest at the time of the child's birth, by *the recent cicatrices*. The leg was well formed in every other way." Other points are entered into minutely in the description in the Catalogue, but it is not necessary to advert to them here; enough has been written to show that adhesion and cicatrization will take place with rapidity in the flesh of infants, even while yet in utero. Again, from what I have seen, I believe that the healing power, instead of being more feeble, is absolutely more vigorous in the infant; and as to the flesh not being sufficiently strong and resisting to give a hold to the needles, a contradiction is afforded by the nume-

rous operations which have been most successfully executed at the tenderest age, even shortly after birth. Stress has been laid upon the abstinence from food, which can be borne in the more advanced period of childhood; but let us examine whether such an assumption holds good: the question is of some moment in a practical way. After operation the child is not inclined to take food for some hours; Nature throws a protective influence over the part, which is peculiarly remarkable where the operation has been delayed, and the little patient allowed to advance in years. I have seen a very unfavourable restlessness created absolutely by the dread of taking nourishment, for which the demand was urgent and pressing; but it is not thus with the infant operated on soon after birth: it sleeps for a short time, and upon awaking it readily takes the breast, and while in the very act is again overcome with sleep, and hushed to repose in the warm and loving embrace of its mother. In many cases I have seen all this occur, and for illustration may refer to that of Sullivan, operated on at the age of two months, and Bridget Russell, at the age of ten days (Cases I. II.) As regards the epochs of dentition and the likelihood of convulsions during such periods, there is no more danger, in my opinion, to be apprehended from the operation for hare-lip than after any other which it may be necessary to subject a child to. As to convulsions, I have never seen them arise in a single instance after the operation for hare-lip, either in my own practice or that of others.

In the second case of complicated hare-lip which I have detailed, it is mentioned that the child had slight convulsions on the morning and evening before admission to hospital, yet after gentle mercurial aperients there was no recurrence of them, and though operated on a few mornings after, they were not ushered into existence. From this instance and others which I have witnessed, I am led to the conclusion, that in many of the cases in which they are reported to have occurred after operation, a due attention was not paid to the condition of the bowels and general health. Mr. Fergusson writes thus[a]: "An erroneous impression (as I suppose) prevails that children are remarkably subject to convulsions while undergoing operations; and this is often urged as a reason for not interfering with hare-lip in early life. Doubtless, convulsions have occurred in some of these cases; but similar effects have been produced in the adult, and by less formidable means too. Sir A. Cooper has referred to several examples of this kind; but I

[a] Practical Surgery, p. 594.

imagine they must be rare indeed. I once asked the late Dr. Abercrombie of Edinburgh the results of his experience on this point, and he could not bring a single instance to his recollection where convulsions could be fairly attributed to an operation. In my own limited opportunities I have never seen a case of the kind, although I have performed much more severe operations on newly-born infants than that for hare-lip could possibly be." In reference to the fatal effects apprehended from loss of blood and the fainting consequent upon it at the tender age of infancy, I shall thus remark,—that there should be no risk from either, if the assistant be vigilant, and the operating surgeon dexterous and rapid in his movements. Mr. Lawrence thus expresses himself:—"It has sometimes been said that children are liable to convulsions at this time (speaking of the operation for hare-lip) and that a considerable loss of blood may act seriously on them, so that they may die from the mere effect of the operation; this has not occurred in any case that has come within my observation." The age for performing the operation in cases of congenital hare-lip has formed the subject of a communication to the Royal Academy of Medicine by Professor Dubois, who advocates an early operation, and has brought forward several cases in support of the proceeding; the patients were subjected to the operation at the following ages:—three on the second day after birth—one, a few days after—one, a fifth—and one on the fifteenth; four of the infants were allowed to take the breast; two were brought up by the hand: all the cases were successful. M. Dubois states, that if the child be sickly, and the hare-lip complicated with divisions of the bones, the operation ought to be deferred; but that when the child is strong and healthy, and if the fissure only affects the lip, it ought to be performed early. I shall not conceal Roux's opinion on this statement: he said it would be unfortunate if, on the authority of Professor Dubois' name, it should be concluded, that the operation ought to be performed early in every case: the facts recorded by him are relative to simple uncomplicated hare-lip; and in this respect M. Roux coincided in a great measure with him, although he is always fearful of dangerous results consecutive to operations in very young children, the more so, as he has witnessed several which terminated fatally. Mütter writes:—"Much dread of convulsions, sloughings, fevers, &c., exists in the minds of some when they refer to operations of this kind upon very young children; but I have, over and over again, succeeded without the occurrence of any untoward symptoms, in infants of three, four, and five days old."

I shall next endeavour to point out the reasons directly in

favour of the superiority of infancy over a more matured age for its being made the period of this operation. It may be fairly urged, that when early put to rights the parts recover themselves afterwards better than when they are permitted to remain and grow up misshapen. And there is one circumstance which never should be lost sight of or overlooked in coming to a determination regarding time, namely, that the fissure of the palate frequently closes of itself after the lip has been operated on during infancy; and bad habits of speaking, such as nasal or guttural utterance, which, if once established, become irremediable, are averted. By the early operation the whole features are prevented holding for ever impressed upon them the characteristics of their misshapen originality; and who will not admit that by removing such disfiguration from the face before the child has become aware of its presence, it is spared the feelings of humiliation which the consciousness of such deformity necessarily imparts, and which invariably gives a tone to the after character of the individual. By the early operation the feelings of parents are greatly gratified that the deformity of their child is removed before it has gone abroad into the world[a]. We have conflicting opinions, then, by great men nearly balanced on the question. I have no hesitation myself in giving preference to the early operation. I do not think it fraught it with as much danger to the infant as to the child at a later period; and most certainly, if performed by the same hand, I consider, with a far better chance of removing the deformity; the infant is so quiet, so unconscious of danger, so easily restrained, that the hard parts, if irregular, can easily be forced back into position; the incisions can be accomplished with the greatest accuracy and rapidity. Again, when the parts are placed in apposition, and retained so, there is no disturbing forces, for the muscles of the face have not been yet brought into action, or exercised by expression; and finally, I do not think the all-powerful law of the coalescence of opposite sides has become extinct, annihilated by birth, and therefore should be made available towards furthering reparation.

In this paper I have given examples where I performed the operation at various ages, from twelve days after birth to the completion of the thirteenth year. I have watched over many with great anxiety, and am fully convinced that the safest period to the child for operation is from the termination of the first week to the end of the third month. No doubt it may be undertaken earlier, and has been with success in many instances; but I prefer waiting a few days after birth, in order,

[a] See Dr. Houston's Essay on Hare-Lip, Dublin Journal, vol. xxi., of which I have availed myself in many parts of this paper.

as it were, to allow the functions of the body to he healthily in action. During dentition some caution is requisite; but even during this process, periods free from irritation and fever will arise which may be taken advantage of for operation. As the child advances in life the deformity is greatly increased, and the operative measures, I believe, become far more formidable; besides, the parts within the mouth, when the palate is widely fissured, become so disproportionately formed, that intonation and voice become spoiled for ever after. By delay the tongue, as I have already alluded to, may become too large to permit of operation with safety.

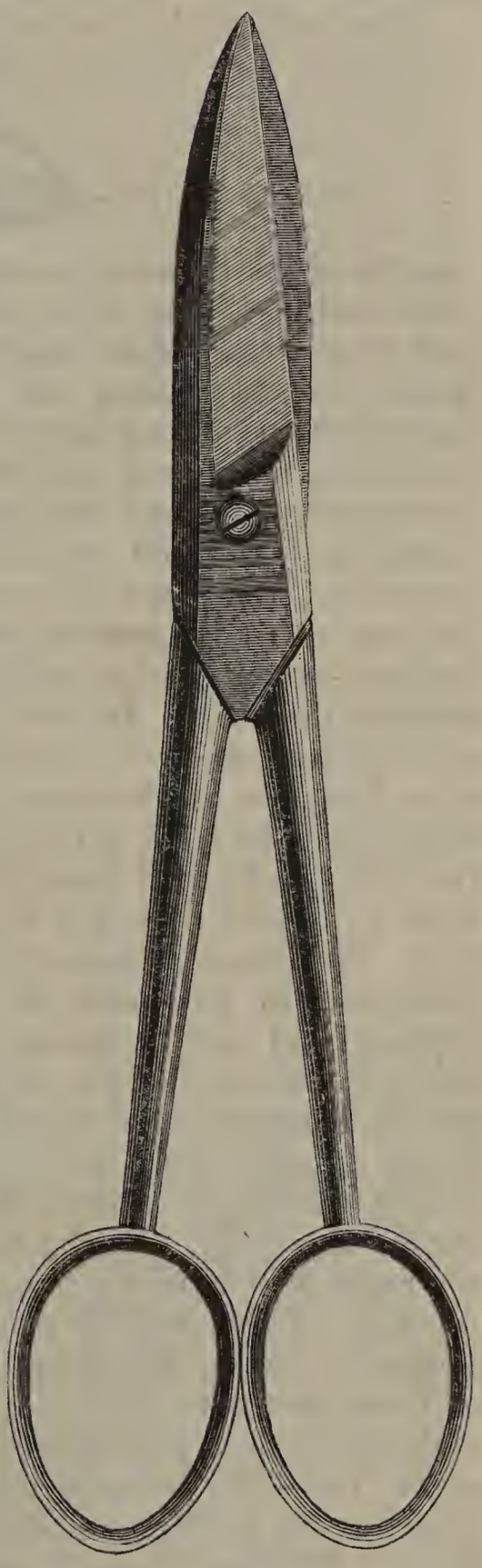
In reference to the selection of instruments for the operation of hare-lip, the comparative merits of the bistoury and scissors require consideration. Many of the older surgeons were indifferent in their choice,—Franco, Heister, and Ledran recommend either indiscriminately. However, in France the greater number adopted the scissors, until Louis, with an exaggerated importance, proclaimed their inconveniences, and the advantages of the scalpel. At length Desault, though shaken in his views by the authority of this celebrated man, by accurate investigation and diligent research, fixed his practice on the point, and used the scissors. Ever since Dubois' writings the French school are in favour of the scissors; while the most distinguished operating surgeons of the English school prefer the knife. Mr. Liston, in advocating the superiority of the bistoury, has gone beyond the limits which experience will warrant or a strict adhesion to facts support. He writes—"Paring with scissors is to be reprobated as an effectual means of preventing immediate union," while, by the employment of the knife, "bruising is avoided, and union takes place rapidly"[a]. I cannot conceive why Mr. Liston, so accurate generally in all his statements, should have penned such sentences as these; surely he must have seen instances in which the scissors-wound has healed as rapidly as that made with the sharpest knife? When the edges of the wound so made have refused union, it must be assigned to some other cause; for instance, even in Mr. Liston's own hands, though the knife be the instrument used, no union may take place in the cut edges. Mr. Fergusson, in the Medical Times and Gazette[b], mentions such an instance. He says, relative to a little girl upon whom he was about to operate:—"The case was more especially interesting, as an operation had been put in force on two previous occasions,

[a] Elements of Surgery, p. 396 [b] December 21, 1850.

and the fissure in the lip, which was a simple one, had not united on either occasion; the late Mr. Liston was one of the gentlemen who operated, and this is a sufficient guarantee that everything was done that could be for curing the deformity; but from some cause, which cannot be explained, union did not take place, and the affection still remained." Experience proves that the part cut by scissors never shows any contusion, and the neatness of the wound, whether made with the knife or scissors, will greatly depend upon the hand that uses them. Malgaigne even goes further, and believes that pressure is, in certain cases, the best means of obtaining *clean* incisions—whence the necessity of extending and stretching the skin under the bistoury—and writes, "as this pressure is by no means so strong as with the scissors, we ought, in all cases where the parts may be divided at one stroke, to prefer them—the contusion is a chimerical idea." As to the amount of pain, Bell's experiment, where he cut off one of the borders of fissure with the knife, and the other with a scissors, proves that the patient complained more of the first than the second incision.

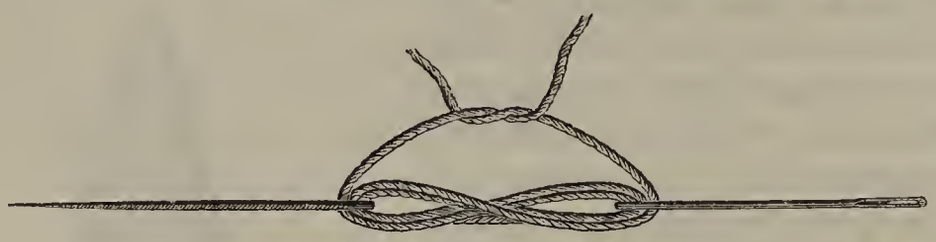
In the numerous cases which I have given, I used the scissors for paring the lip; in all and in every instance the wounds have beautifully united throughout, sufficient evidence that the division made by the scissors is susceptible of union by *first intention.* I have used both the bistoury and the scissors, and freely confess I prefer the latter. When applied to the lip in the way which I have pointed out, after a sufficient degree of traction is exerted upon it, by drawing the tenaculum downwards and towards the mesial line, I am convinced a more even and accurate section can be made than with the knife. It is no argument, because in the hands of such men as Liston and Ferguson beautiful operations are accomplished with the knife, that their method must be the best; for in skilful hands equal success often crowns both means. Fixing the lip with the tenaculum, as before explained, is not so formidable a measure as that adopted by Dupuytren and Velpeau, of drawing a silk thread through it, while from the resisting nature of the instrument greater precision is certainly obtained. Either mode is superior to that adopted by Liston and others, of holding the angle of the lip between the finger and thumb; for I have seen, when the fingers became wet with blood, the part slip away and the section made uneven, so as to require a second application of the knife, ay, and of the scissors too, to rectify the mistake.

I have here figured the scissors which I am in the habit of using. It is represented of the full size; the handles are strong and firm, terminating in knife blades, finely pointed. Malgaigne writes, there is only one proceeding in which the bistoury is indispensable; it is when you wish to give a slightly concave form to the edges, so that, when reunion has taken place, there remains a projection at the inferior part that imitates the natural prominence. This modification has not been very successful, but perhaps ought not to be altogether rejected. I have operated satisfactorily in this way, as detailed in Case vi., with curved scissors, which I had made expressly for the purpose, and which are figured further on.



Too much stress cannot be laid upon the form of needle which the surgeon chooses when he purposes employing the twisted suture. I have no doubt the coarse silver pins and "hare-lip needles," as they are called, with sliding points, and points capable of being removed on and off, have over and over again defeated the objects of the surgeon. From their clumsiness and bulk, when thrust into the parts, irritation is kept up, and frequently the inflammation passes beyond the bounds necessary even for adhesion, and non-union of the wound is the result. Again, a portion may be united and another not; but even granted that the track of the wound heals favourably, openings, with loss of substance, are created from their pressure, which are never entirely filled up after. The needle which I have been in the habit of using is sold as the common darning needle; it may be obtained of various

lengths and thickness. I generally use the size represented in the woodcut. It is a long, slender needle, ground into a tri-



angular shape from its point upwards, for half to three-quarters of an inch. Owing to its great length it is easily introduced, and very manageable after transfixion. It will rest in the wound without falling out, owing to its length, until other parts of the operation are proceeded with; and from the delicacy of its form, and the sharpness of its point and edges, it traverses the lip with the least possible violence; it is so thin, round, and polished on its surface, it produces scarcely any irritation. After the silk is thrown around it, the point and eye are easily clipped off; and lastly, when the time for its removal comes, it is easily withdrawn without jerking or shaking the parts. In the application of the twisted suture, I would insist upon the following particulars being attended to:—First, the needle must be introduced a considerable distance from the edge of the lip, and not, as in accordance with the rule usually laid down, "that the point of entrance must be at a distance from the edge, equal to the thickness of the lip." By piercing far away from the cut edge, the needle is permitted to pass *close* to the mucous membrane without dipping, and not, as generally advocated, two-thirds through the substance of the lip[a]. Second, when the silken cord (which should be coarse) is about to be cast around the needle, in the figure of eight form, before any restraint is made by it, the cheeks should be shoved forwards by an assistant standing behind the child, and the cut surfaces absolutely in contact; the parts thus held up together are gently restrained by the turnings of the cord from retracting or receding into their original position, but there is no uneven constriction exerted on them, as occurs when they are forced together by the tension of the ligature as generally applied. As the result of the former mode, but little force is required to keep the parts in situ, therefore the needles are not dragged forwards, or made to produce an injurious pressure on the transfixed parts, terminating in ulceration; thus, through the entire depth of the wound adaptation of surfaces is insured with the slightest amount of

[a] Cooper's Surgical Dictionary, p. 658, Seventh Edition.

force, every portion of it being exerted in the right way. By attending to these particulars I have accomplished union with the twisted suture in the most perfect way in all the foregoing cases, and in many more not herein recorded. In addition to the twisted suture, it will be observed in the history of the foregoing cases, I generally put a point of the interrupted suture on the inside of the red border of the lip to prevent the edges gaping: the ligature acts a second part, it prevents the child's tongue separating the edges. To more fully carry out this latter object I have passed the needle through the entire thickness of the lip, as recommended by Malgaigne; this practice is enforced in Case VIII. No exact rule can be laid down for regulating the time when the needles should be withdrawn; a good deal depends upon the tension by which they are retained. In some instances they must be left in longer than in others; they must be carefully watched, and withdrawn on the first appearance of ulceration. I have given an example of the expediency of removing one, inclined to cut its way out, and replacing it by another near the locality. In the various cases, the details of which I have given, the needles were removed after the lapse of the following number of hours from the time of the operation:—

Patient, 2 months old.	—Needle	removed	56	hours after operation.
„ 10 days old.		„	70	„
„ 19 months old.		„	72	„
„ 13 years old.		„	78	„
„ 15 months old.		„	72	„
„ 6 weeks old.		„	67	„
„ 12 months old.		„	58	„
„ 6 years old.	Died from fright.			

In addition to the twisted suture, there are other mechanical appliances which may be employed with great benefit as auxiliaries in holding the edges of the wound together, the simplest of which consists in wide straps of adhesive plaster, shaped and figured in the manner already pointed out. The assistance to be derived from a force drawing the cheeks forward was not lost upon Desault, who invented a special bandage for the purpose, and which goes by his name. He has figured it in his work on Surgery, applied to the patient. Upon the cheeks are placed two cushions in the space circumscribed behind by the masseter; before, by the commissure; above, by the malar eminence; below, by the sides of the lower jaw. "An assistant fixes them by pressing them against the cheek and pushing them forwards." These pads are retained in their

respective places by a bandage, which it is not necessary to describe here, and for the application of which I beg to refer to the original volume.

The great objection to this bandage rests in the fact, that the needles are pressed upon—therefore it should never be used; and on the same principle, when mentioning the application of adhesive straps as a useful accessory in keeping the cheeks forward, I have laid great stress in slitting them in a way that they cannot press upon or interfere with the needles. Mr. Fergusson makes mention of, and has figured in his Practical Surgery[a], a very useful contrivance, brought under his notice by an ingenious mechanic, Mr. Hainsby, who designed it to apply to the face of his own child, who had been already operated on twice unsuccessfully, once by the perfect hand of Mr. Liston. I have before alluded to this case when drawing a parallel between the advantages of the bistoury and scissors. The instrument consists of a spring which encircles the head from behind, and the two ends, terminating each with a pad, rest on the cheeks, which are thereby supported in the position given to them. All dragging or strain upon the sutures is thus prevented, and pressure upon the lip, whether from the bones behind or otherwise, is guarded against. Mr. Fergusson operated upon this case when failure occurred already on two occasions, and he registers his success in these words:—"I am of opinion that the cure in this instance was owing in some measure to the ingenuity of the patient's father, and I would recommend this case to your consideration; for there are instances of hare-lip in which a surgeon will not like to operate, in consequence of the great amount of tension which will be exerted upon the edges of the wound, which will, almost with certainty, burst open again"[b].

However, an instrument very similar to this was recommended more than a century ago[c]. The direction in Verduc's book is to place the spring upon the head, with the ends resting upon the cheeks; but the instrument was objected to by several eminent surgeons, when it fell into disrepute. All the objections appear to have been merely theoretical. Le Charrière considered that by means of a circle of steel, which surrounded the head, and by graduated compresses, which he placed upon the cheeks, success would be unavoidable. For the purpose of replacing his bandage it has been modified since in various ways by Quesnay, Henkel, Koennig, Strickelberger, and

[a] Page 591. [b] Medical Times, December 21, 1850.
[c] See Verduc's Traité des Operations de Chirurgie, p. 218.

Eckhold. Enaux and Valentine devised those which bear their name. The supporting spring of Le Charrière approximates most closely of all to Hainsby's apparatus. Mr. Quain, in commenting on an interesting case of complicated hare-lip, which he has published in the Medical Times and Gazette for July, 1852, states—"Heretofore I myself, before I had seen Verduc's proposition, applied to more than one surgeon's instrument-maker to construct a spring, with a view to another difficult case; but they did not succeed in making a useful instrument."

There are two very excellent cases of hare-lip, with protrusion of the central part of the alveolar process of the upper jaw, detailed in the Edinburgh Medical and Surgical Journal for July, 1830, by Mr. Dewar, and in which he used a steel spring, very analogous to that recommended by Mr. Fergusson. "It occurred to me," says Mr. Dewar, "that as a very slight degree of pressure on the cheek, on each side, near to the corner of the mouth, relaxes the upper lip, a narrow piece of steel, having a spring, might be so adapted as effectually to answer my purpose. I had, accordingly, a spring made, nearly resembling a pair of sugar-tongs, and so padded as to press on the cheek near the mouth. It was kept in its place by a narrow tape, tied over the chin, and by three tapes which were fastened on behind, and one on each side, to a piece of leather placed one the crown of the head. This simple contrivance answered every purpose admirably: I could relax the lip by it to any degree I wished, and it could be worn without the smallest inconvenience. The strain was thus taken off the pins, and the process of healing advanced in the most favourable manner"[a]. There can be no doubt, however, that "Hainsby's apparatus" is far superior to all others, for in its adjustment no pressure whatever is exerted over the cicatrix. The great superiority of this instrument is borne ample testimony to in the following embarrassing case of cancer of the lower lip, in which I used it so far back as the year 1852, and has been published in the records of the Surgical Society:—

Extensive Cancer of the Lip; Operation; Recovery; Advantages of Hainsby's Apparatus, applied now for the first *time after the Operation for Cancer.*

T. H., aged 43 years, admitted into Mercer's Hospital, under my care, August 29, 1852. He stated that seven months

[a] Medical Times, January 25, 1851, p. 104.

prior to his admission "a small welt," which he had noticed in the lower lip for many years, became exceedingly painful, so that his attention was constantly directed to it. He was in the habit of feeling the part, and was often compelled to press it forcibly to deaden the stinging pain. After a short time a little blister formed over the tubercle; the mucous membrane was detached, and there issued a constant moisture of thin fluid from the exposed surface. The abraded part was exceedingly sensitive, so that the patient kept it constantly covered with a piece of black plaster. During the following months it increased rapidly, seizing upon and including nearly two-thirds of the lower lip, and extending a little beyond the left commissure. The entire ulcerated surface was elevated, irregular at the margins, and quite hard; it had extended on the inside of the lip, nearly as low as the point of reflexion of the mucous membrane from the lip to the maxilla, and externally on a line somewhat below this part. The tumour was uneven on the surface, elevated in some places very considerably by the deposition of new structure, and, as it were, dug out in others, forming small pits, from which the abundantly secreted sanious discharge constantly trickled over the chin. Again, the disorganized part was peculiarly sensitive to the slightest touch, and yielded blood readily on being handled. On the most careful examination I could detect only one lymphatic gland, either hardened or enlarged, about the neck, situated just near the angle of the jaw, corresponding to the lower and anterior edge of the parotid on the left side. This was not much increased beyond its normal size, and the patient assured me that it had been enlarged, and had remained so, after an attack of mumps, which he suffered from many years before his lip got bad.

The operation being decided on, it was performed in the following way:—Standing in front of the patient, an incision was commenced at the prolabium, a quarter of an inch to the right side of the tumour, and the knife carried rapidly downwards and inwards to the middle line of the chin and to its lowest margin. The tumour, though not involving the upper lip at the left commissure, incorporated itself with the lower for half an inch beyond this point. To remove effectually this portion, the second incision was complicated in the following way. The knife was carried from about two lines above the commissure horizontally, but with a slight inclination downwards, through the left cheek, for three-quarters of an inch, and then directed beneath the projecting nodule of the tumour downwards and inwards to nearly the same extent; thus a small

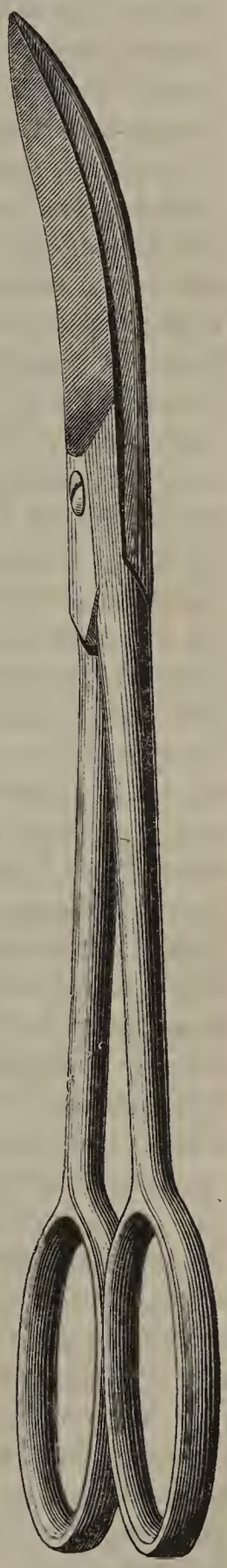
triangle was formed, the apex externally, and the base, including the projecting part of the tumour, marked by a line let fall from the commissure. The knife from this point was carried very obliquely downwards to the lowest part of the mesial line of the chin, to meet the first incision; the obliquity of this line was such that, when drawn up at the point from which it commenced the base of the small triangle, to form a commissure, the remaining portion of its extent was as long as the first incision which had been executed more vertically. Owing to the transverse width of the part to be removed at the prolabium, it was essential that the lateral incisions should be carried as far down as specified; and, still further to facilitate the approximation of the cut edges, it was imperative to detach freely, for a considerable length, the lateral flaps from their attachments to the maxilla. These points being attended to, the parts yielded to traction forwards, and the divided surfaces were readily retained in situ by one point of the interrupted and three of the twisted suture. The needles which I used in this case were remarkable for their length and slender proportions, being rounded in the shaft, with a long tapering triangular point, while at the other end was a small head well adapted for the finger of the surgeon, so as to take any amount of pressure required for the transfixion of the parts. The first needle was introduced near the inferior angle of the wound, and a few turns of thick stay-silk, well waxed, passed round its extremities in the figure of eight. The second needle was introduced a little higher up, and the silk made to describe the same figure as in the first instance; the third stitch was of the interrupted suture, and made at the base of the small triangle already described, thus completing the left commissure; the third needle was introduced about three-quarters of an inch external to the commissure, and carried through the prolabium of the opposite flap to about the same distance from its cut edge; when the ligature was turned round the extremities of this needle, the apposition of the parts was perfect. There were two particulars carried out here not to be lost sight of: first, the extreme fineness and length of the needles (four inches) rendered their application most easy, for when one flap was struck, the opposite could be pierced at any point with the greatest facility and precision,—a circumstance not readily achieved with a short instrument in so widely gaping a wound; secondly, the extent of parts embraced by each suture was far wider than surgeons usually direct.

The foregoing case required a good deal of consideration before deciding on the exact operative interference most likely to be productive of benefit. The question was: how to remove

so large a portion of the lip, and afterwards unite the cut edges, without performing a chylo-plastic operation which so frequently fails, and which may reasonably be ascribed to the ascending course which the blood must take in the flap. I was emboldened in the measure I adopted by the cases of complicated hare-lip, at the time published by Mr. Fergusson and others, where the amount of parts, both by original deformity and increased by former unsuccessful and faulty operations, was very great; yet by the adaptation of mechanical contrivance to the intentions of the surgeon, cure was brought about most satisfactorily. On the completion of the operation, after the method which I have described, though every precaution feasible was put in practice to relieve the dragging on the needles and the strangulation of the included parts, I could not but feel apprehensive for the result; indeed, beforehand I had estimated pretty accurately how the case would stand, but was encouraged by the anticipation of a great auxiliary in the appliance of Hainsby's apparatus. So sensible was I of the advantages to be expected from this instrument, I immediately sent to London for it; but being disappointed in its arrival, I even deferred operating for some days until I could get one constructed by Mr. Read of Parliament-street. Immediately after the operation I applied this instrument, and was not disappointed in my expectations. By it the cheeks were pressed forwards, so as to take all strain off the needles. The only difference in its appliance in the present instance, and that as represented by Mr. Fergusson in hare-lip was, that the pads at the extremity of the spring lay a little lower, and were prevented from changing their position by a band of tape passed beneath the chin from one to the other. The needles were withdrawn in fifty-six hours after the operation, and the entire wound healed by first intention; a result which I mainly attribute to the spring apparatus employed. Its use was persisted in for some days after the healing of the wound, to support the recently united parts. In a month after the operation it was astonishing to see how little deformity existed: coloured casts representing the appearance of the man before and after operation are in my possession.

In addition to the modes of incising the soft parts which I have described as practically applied in the foregoing cases, there are others proposed by eminent surgeons—the object of all being to try and do away with the notch which so frequently remains at the red border of the lip after operation. I have instanced a case where I made the semilunar incisions, and certainly a very beautiful lip was the result; there was no de-

ficient point below. The curved scissors which I had made to effect this object is here represented of its full size and perfect proportions. The instrument is a solid one, with knife-blades closely fitted. It answers the purpose admirably; and when this line of incision is desired, I can confidently recommend it as most suitable for the purpose.



In other hands this modification of the operation has not been very successful; I have seen after the method the centre of the most concave part not accept of union, and the space filled up with granulations, ultimately skinned over, creating a broad, marked cicatrix. M. Malgaigne adopts the following method: instead of refreshing the edges from below upwards, he incises them from above downwards, leaving the detached slip adhering by a small pedicle below; he then unites the wound, and, bringing the two little strips over the inferior angle of each edge of the lip, he cuts and trims them to fill up the depression.

M. Coste, Chief Surgeon to the Hotel Dieu of Marseilles, has proposed the following modification in the operation for hare-lip, so as to obviate the ugly notch which often remains below. He states that the plan proposed by Malgaigne is only applicable in double hare-lip, and that in the simple deformity an unsightly prominence is left. The author in simple hare-lip (which lies generally on the left side) has succeeded in avoiding the notch altogether by cutting a horizontal flap in the red part of the lip on one side, and a kind of half mortise on the other. In paring the margins of the fissure he takes off more substance than is generally done; the flap and mortise are well secured by twisted suture and by one of the diminutive spring forceps called "serres fines;" one transverse needle is placed a little higher up, and no application whatsoever made, so that the progress may be more accurately watched. M. Coste gives the instance where he thus succeeded upon a little boy two years of age in the most satisfactory way.

It matters but little what method is followed, if the rounded margins of the lip be not freely cut away. If they are so,

and the cautions observed in passing the lower needle which I have dwelt upon, the same happy results will be obtained by the method I have practically illustrated in the foregoing cases. In addition to what I have already written about the management of the central piece of the lip in the double form, I have only to add, that when it is large enough to come down on a line with the red margins of the lateral portions, and even covered with a red border, I do not save it to make a part of the lip below. I have seen it, when preserved, fail to accept the union on one or the other side, and I have also seen a double notch occasioned by its preservation. This central piece should be accurately fixed by one or two needles thrust through the outer flaps, and traversing it from side to side; it is a practice far better than the proceeding recommended by Gensoul of applying separate points of twisted suture to each branch of the V. Dieffenbach's Karlsbad insect needles may be equally efficacious as the fine cambric ones used by me. I ought to notice here that in latter years Sir A. Cooper gave the preference to the common interrupted suture, on account of the difficulty sometimes experienced in withdrawing the pins and the liability of the new adhesions to be broken on the occasion; whereas the threads of a common suture may be cut and taken out with the greatest facility; but, again, I repeat that any proceeding of the kind is inferior in every respect to the twisted suture as employed by me; at the same time I freely admit the candour of Sir A. Cooper in abandoning a coarse, clumsy method which was not suitable, and therefore, could not possibly be successful. The twisted suture, as I have described it, so perfectly accomplishes its end, that there is little hope or fear that M. Mayor's new kind of suture will replace it; it is called by the mattress-makers the quilt stitch ("le point pique"). He pierces the left edge of the wound near its free end with a needle, which he introduces at a right angle from within outwards, drawing with it a double thread, at the end of which a ball of cotton is attached; by its pressure the edges of the wound are united, and by tying together the ends of the threads upon a ball of wool put between them, the union is supported, as he would lead the reader to infer, probably as well as in the seam suture.

A good deal of diversity of opinion prevails as to the best mode of dealing with the projecting maxilla and the detached central osseous piece in cases of complicated hare-lip. Some of the very highest authorities recommend cutting off the projecting piece. Sir A. Cooper says, "when the jaw itself projects, the common preliminary step to the operation consists in cutting away the bony prominence." Chelius likewise incul-

cates this precept in the following passage:—"If there be a bony growth in the cleft, it must, after the skin covering it has been raised, be removed with the nippers." And again: "If the incisive teeth project, they must be extracted if of the first set; but if of the second, it must be attempted to give them their proper direction by continued pressure, and if this be not possible, they also must be extracted"[a]. On no account, in my opinion, should the projecting maxilla be cut away. In the youngest infants I have bent it back, rupturing its elastic structure, and, in more advanced life, after Gensoul's method, breaking it with a forceps and thrusting it back, and after either experienced but little difficulty in steadying the piece in its new berth. Cases I. and II. exemplify the former position, while Case V. illustrates the latter. There is no doubt that in very young children, if pressure be steadily kept upon the part for a lengthened time, it will be got back. Desault effected this object by bandage; and in Cooper's Surgical Dictionary is a case where the author was successful "by a spring truss worn daily for several hours." But these methods become tedious and irksome both to surgeon and patient, and are not always effective. Other surgeons slice away the most convex part, or the outer laminæ of the projecting maxilla, the only object attained by this proceeding being the support afforded to the lip, but the teeth are for ever absent. So anxious am I to preserve the teeth in these cases, even when irregular, I twist them with a forceps into a more seemly and better position before I break back the bone. When a central osseous piece projects, as in Case III., containing the incisor teeth, every effort should be made to save it. In the instance cited I adopted a novel method, and succeeded, which I trust may be practised by others, where the parts are similarly circumstanced. This portion, when so very prominent, must be got back or taken away to allow the soft parts to be united; therefore many surgeons, Liston, Fergusson, and others, take it away. If the attempt be made to push it back, the stalk breaks, and, in many instances, having no support, it falls down towards the mouth, below the alveolar range. Even in this unpromising state the following measures may be tried. The edges of the central piece, almost always covered with a structure similar to the gum, being pared, as well as the anterior margins of the maxillæ, a strong needle should be thrust across (or a hole drilled for it) from one maxilla to the other, traversing the central piece; the ends should be clipped off as close as possible

[a] Vol. i. p. 595.

and a few turns of silk thread thrown around to retain it in its berth; a bit of lint should then be put round each end to save the cheek from being irritated; after a few days the needle might be withdrawn and the remaining steps of the operation proceeded with; or I would have no hesitation in putting across the three portions of bone a metallic thread, as recommended by Flaubert, of Rouen, after resection of the ends of the humerus in non-consolidated fracture of bone, and at once completing the operation.

As to the position in which the child should be placed for operation, I prefer the semi-erect posture. In this position the infant can be held, firmly rolled up in a sheet, in the arms of an assistant, and its head steadied in the most perfect way by a second. If the child be more advanced in years it should be secured in a chair by a few additional turns of a sheet. By this position the blood is prevented streaming backwards to the throat, giving rise to violent coughing and struggles for air; and the parts being more under the command of the surgeon, he can accomplish the necessary steps with the greatest possible accuracy, precision, and rapidity.

I have never availed myself of the anæsthetic agency of chloroform in this operation for hare-lip, for the following reasons:—I consider it impossible to measure the exact amount, so as to dull the sensibility of an infant, without risking the annihilation of the protective influence presiding over the glottis; thus leaving it to chance whether blood may not trickle down, and suffocation ensue. In the child more advanced in age, if the chloroform be not given in sufficient quantity to produce its full effect, an increased violence and restlessness is invariably consequent upon its use. Once for all, I repeat, the risk is too great for its adoption.

I have endeavoured to apply cold, after Arnott's method, in these cases, so as to freeze the parts and destroy their sensibility before cutting—a practice which I have found most valuable in other operations[a]; but I had a deeper object in view—that expressed and dwelt upon in the paper referred to, namely, to bring into operation "*the healthy action aroused in the part after its use.*" But in these instances I have been compelled to desist, from the great pain occasioned by the process of congelation, after a few minutes; indeed the child's cries and struggles to get free were as vehement and forcible as during the most protracted operation. Therefore I have with some reluctance relinquished it as a means that cannot be employed.

[a] See Dublin Quarterly Journal, May, 1855.

The management of the child after operation has been precisely dwelt upon throughout the details of the various cases brought forward in this paper to elucidate the subject:—the operative measures necessary in the treatment of hare-lip.

Art. II.—*Report of* 989 *Cases of Fever Treated and Noted. With Remarks.* By Thomas H. Babington, M. B., Surgeon, Co. Londonderry Infirmary.

The period during which these cases of fever came under treatment, and were observed and noted, extended from October, 1847, to October, 1855.

Under the name fever several varieties are included which will be more particularly noticed.

In reference to the sex of the persons attacked, or rather admitted into hospital (as all the cases came under observation in hospital), 420 were males, and 569 females.

With respect to ages the cases may be classified as follows: Under 5, 28; from 5 to 10, 99; from 10 to 20, 371; from 20 to 30, 168; from 30 to 40, 111; from 40 to 50, 116; from 50 to 60, 49; from 60 to 70, 38; from 70 to 80, 8; from 80 to 90, 0; from 90 to 100, 1; total, 989.—Of the whole number 916 recovered, and 73 died.

The deaths are arranged as to ages as follows:—Under 5, 1; from 5 to 10, 1; from 10 to 20, 15; from 20 to 30, 11; from 30 to 40, 8; from 40 to 50, 13; from 50 to 60, 13; from 60 to 70, 7; from 70 to 80, 4; from 80 to 90, 0; from 90 to 100, 0; total, 73.

On looking over this classification of the ages of the persons attacked, it appears that considerably above one-half were under the age of 30, and more than one-third of the whole number were between the ages of 10 and 20. Is this susceptibility of the influence of the poison greater when the vital powers are occupied in nourishing the quickly growing frame, and the vital forces being exercised in this direction are not available to repel the infection?

In reference to the mortality, it is a small fraction over $7\frac{1}{4}$ per cent. And here it is to be observed, that in the young the per-centage of deaths, with regard to the number of cases attacked, is much less than in those more advanced in life; so that if, as observed above, the susceptibility of disease is greater, the power of resisting and holding out against its effects appears also to be increased. It appears from the figures that under

thirty years of age, 666 persons were attacked; and of these 28 died, or $4\frac{1}{5}$ per cent.:—From 30 to 50, 227 were attacked, and 21 died, or $9\frac{1}{4}$ per cent.; from 50 to 70, 87 were attacked, and 20 died, or 23 per cent.; from 70 to 80[a], 8 were attacked, and 4 died, or 50 per cent. Hence it appears that from the turn of life the mortality is greatly increased.

In the cases noted the following varieties were observed:—

1st. Simple continued fever, without complication.

2nd. Continued fever, with petechiæ.

3rd. Continued fever, with petechiæ, prostration, complications, and typhoid symptoms.

4th. Continued fever, with maculæ, or measly eruption, and complications.

These varieties, to a great extent, correspond with those enumerated in Dr. Graves' "Clinical Medicine"[b], viz.:—

"1st. Simple continued fever, without maculæ or any notable determination to particular organs.

"2nd. Continued fever, without maculæ, with determination to some organ.

"3rd. Continued fever, with maculæ.

"4th. Continued fever, accompanied from the very beginning by gastric derangement and epigastric tenderness.

"5th. The last mentioned species, but in a more intense form, having black vomit and yellowness of the skin superadded[c].

"6th. Continued fever, with petechiæ."

1st. On the simple continued fever, without complication, I need make no remark. The presence of petechiæ, as observed in No. 2, I am inclined to attribute to a vitiated and weakened state of the system, and have noticed the existence of petechiæ in whole families who, when attacked, resided in low, damp, close, and badly ventilated dwellings, the individuals being very much crowded together, and of necessity inhaling a very impure atmosphere. *Hence* the blood is imperfectly oxygen-

[a] The patient attacked above ninety years of age not included.

[b] Edited by Neligan, vol. i. p. 105. Edition of 1848.

[c] Some years since, in private practice, I met with a case of fever of this variety in a patient (a clergyman aged 62) of very active habits. For two years he had adopted the homœopathic system, and, when attacked with the first symptoms of fever, had treated himself accordingly. Intestinal disturbance, vomiting, and purging, set in: on the fourth day of his illness these symptoms were checked; on the fifth day yellowness of the skin appeared; on the following day hiccup and vomiting, and speedily black vomit, which continued till the ninth day, when he sank. Throughout the whole course of the disease the brain remained unaffected, and the intellect perfectly clear.

ized, it loses its crasis, becomes thin and watery, the vital powers are weakened and depressed, a hemorrhagic tendency is engendered, and petechiæ are developed.

3rd. *The Continued Fever, with Petechiæ, Prostration, &c.*—The patients appear to be saturated with the poison; their skins are of a dark dusky colour, covered with petechiæ, blotches, and even vibices; great prostration of the strength; tongue black and dry; teeth covered with black sordes; delirium generally of a low type; involuntary discharges of urine and fæces. This is the variety which I would designate as typhus fever; we meet with similar symptoms in scarlatina and measles, frequently in erysipelas, and other surgical diseases, and where the symptoms above mentioned are observed to exist, it is the invariable custom of physicians and surgeons to remark, that the patients are labouring under typhoid symptoms, or fever of a typhoid type.

4th. *Fever with Maculæ or Measly Eruption.*—The cases of this variety which came under observation were all characterized by an eruption. This form appears to be the true typhus, and has considerable claims to be classed with the exanthemata as a disease *sui generis.* I believe having this form of fever once affords to the patient a considerable immunity ever after. The eruption appears about the fourth or fifth day from the commencement of the attack, and continues with varied degrees of distinctness till the twelfth or fourteenth day, and gradually disappears. It disappears on pressure, and quickly returns. I have observed the eruption of varied shades and colours,—bright red, dark purplish, and sometimes nearly black. These shades of colour I am inclined to attribute very much to the locality and habitation from whence the patient came, and to the malignancy of the disease; just as in scarlatina and measles we often see an eruption of a very dark colour, sometimes nearly black. In cases, also, complicated with bronchitis, if the bronchial affection is extensive, the eruption is generally of a dark colour. Throughout all the cases observed I have not been able to detect any other form of eruption.

Of the whole number treated, 409 were cases of simple continued fever, corresponding to the first variety noticed by Dr. Graves; 184 were simple continued fever with petechiæ; 95 were cases of typhoid fever with complications; and 301 had maculæ, or measly eruption—in fact, were cases of typhus fever, some with and some without complications of particular organs.

Throughout all the cases there was a marked absence of *crisis;* anything like it was observed in only 25 cases, and in

these it occurred by sleep. The principal complications observed were—

Abdominal tenderness, . . .	in	45	cases,
Bronchitis, ...	„	170	„
Cerebral affections, ...	„	37	„
Chorea, ...	„	1	„
Diarrhœa and dysentery, . .	„	19	„
Hemorrhage from mouth, . .	„	2	„
Hemorrhage from uterus, . .	„	1	„
Jaundice, ...	„	3	„
Mortification of extremities, &c.,	„	4	„
Pleuritis, ...	„	2	„
Pneumonia, ...	„	1	„
Peritonitis, ...	„	2	„
Pregnancy and miscarriage, .	„	1	„

Relapses occurred in 15 cases; abscesses, after recovery, in 5 cases—3 at the angle of lower jaw, 1 in the axilla, and 1 in the scalp.

The complications in fever are of a varied nature, and change with the type of the epidemic. Those chiefly demanding attention are the abdominal, the bronchial, and cerebral. These vary both in intensity and frequency with the nature of the epidemic. In one epidemic the majority of cases will be complicated with abdominal tenderness, vomiting, diarrhœa, and dysentery—and occasionally ulceration of the intestines. During the next epidemic nearly all the cases will have bronchitis, and some pneumonia; and again, there will be a run of cases in which affections of the brain and its membranes will be the formidable complication to be watched and combated. The latter, however, is not so frequently to be met with amongst hospital patients, in proportion to the numbers attacked, as in the middle and higher classes of society, where, amongst merchants, clergymen, lawyers, and medical practitioners, the cerebral complication in fever is as frequently present as it is frightfully fatal. With reference to the abdominal complication, I have not been able to detect any form of eruption characteristic of any peculiar intestinal lesion; nor do I think mere abdominal tenderness is much to be depended on as in itself indicative of serious internal disease in fever. I have found many patients wince and complain of pain on pressure made on the epigastrium and other parts of the abdomen, who evinced quite as much discomfort and uneasiness when the integuments of the thorax, the arms, or legs were similarly pressed upon.

Bronchitis was the most frequent complication throughout the cases coming under observation, and required most careful watching,—often beginning in an insidious and trifling form, and suddenly spreading through all the minute ramifications of the bronchial tubes. Four of the cases with this complication proved fatal within twelve hours, from such an intense form of the disease, and such extensive bronchial effusion, that I am inclined to designate the complication as suffocative bronchitis.

The cerebral affections were, as usual, very troublesome and difficult to manage; they were sometimes combined, and sometimes alternated with bronchitis or abdominal complications. It is unnecessary to mention how treacherous the cerebral affections are in fever, how insidiously they commence, how rapidly they run their course too often to a fatal termination, and how much watchfulness is required on the part of the medical attendant to protect his patient, and check the advances of this formidable enemy.

In reference to some of the particular cases mentioned amongst the complications, the case of chorea is somewhat remarkable. A girl, aged 16, who had been labouring under chorea from the age of 6, was attacked with typhus fever, and admitted into hospital on the fifth day, her whole body covered with maculæ; she had most violent and universal muscular twitchings. Musk, even in doses of one scruple every four hours, was ineffectually administered. As she proceeded through the disease, her vital powers sunk very low. She became insensible and unconscious. The free administration of wine, punch, and nutriment, was extensively resorted to. All the symptoms of chorea disappeared. She recovered; and it was not till her convalescence was perfectly established, that the symptoms of her former disease reappeared, which they did as severe as before, and still continue.

Hemorrhage was not of frequent occurrence.

In the case of hemorrhage from the uterus the patient passed through an attack of continued fever, accompanied by great cerebral excitement. She relapsed, and had an attack of typhus (maculated), with severe diarrhœa, followed by uterine hemorrhage. With much care, and after a protracted convalescence, she recovered. The cases of hemorrhage from the mouth were both of a severe nature, and occurred towards the termination of attacks of protracted continued fever, with typhoid symptoms. These cases had all the symptoms of a total breaking up of the vital powers. Hemorrhage from the nose I have observed in the early stages of fever, but never to

an extent requiring surgical interference; and it generally proved beneficial in relieving frontal headach when present.

Jaundice.—The presence of jaundice did not appear to influence or modify the fever, or its progress.

Mortification of the Feet, &c.—In every case in which this occurred the patient sank. In one case the mortification extended to the thighs, scrotum, and integuments of the abdomen.

Pleuritis, Pneumonia, and Peritonitis.—The inflammation in these cases was of a very low type, and would not bear general depletion. The cases of pleuritis and pneumonia recovered, those of peritonitis were fatal.

Enlargement of the spleen was present in one case, which proved fatal. The disease was one of great rapidity; the patient, a boy aged 18, sank very rapidly, and had symptoms, I should say, bordering on putrescence.

Pregnancy and Miscarriage.—The existence of pregnancy did not in any way influence the fever, nor did the occurrence of the miscarriage protract or check the disease. There was no hemorrhage to require any interference.

The mortality, as already mentioned, amounted to 73 cases, a fraction over $7\frac{1}{4}$ per cent. The causes of death were as follows:—

Cerebral Affections,	14
Bronchitis,	16
Diarrhœa,	1
Dysentery,	2
Peritonitis,	2
Purpura,	1
Prostration and Sinking,	30
Mortification,	4
Bed-sores,	2
Fright,	1
Total,	73

The most fatal cerebral affection appeared to be congestion of the brain, terminating in effusion. I cannot recollect having, throughout all the cases, noted any inflammatory affection of the brain or its membranes. Cerebral congestion I have observed to be most fatal from the ages of 35 to 50, and principally to attack those who have been in the habit of drinking freely of ardent spirits, also in persons of studious habits, and deep thinkers. In all such, when attacked with fever, the sensorium suffers deeply, cerebral congestion sets in at an

early period, and even if this is combated and subdued, symptoms of sudden effusion come on, and run to a fatal termination; in the first the patients sink rapidly, in the latter they are frequently attacked with convulsions.

The cases fatal from bronchitis, diarrhœa, dysentery, and peritonitis, require no particular notice.

Purpura.—In this case the symptoms appeared at the end of a very protracted convalescence, and terminated fatally, with much hemorrhage from the mouth.

Prostration and Sinking.—From this cause 30 cases are enumerated as having proved fatal; 6 of them died a few hours after admission into hospital; 7 on the day after admission; 10 on the second day; 5 on the fifth day; 2 were protracted to the thirtieth day. All these cases were marked by extreme prostration of the powers of life, cold livid surface, sunken countenance, indistinct pulse, weak sounds and action of heart, partial stupor or indifference to all surrounding objects. In these cases no particular organ seemed to be engaged; the whole system was poisoned, and the vital powers so prostrated, that no resistance could be offered to the disease, nor could the powers of life be sustained.

One patient died from fright and fear. A young man, aged 20, passed favourably through typhus fever without complication, and was nearly convalescent,—a patient was admitted into the same ward with low typhoid fever, and sank and died in two days. On the day on which he died, this young man became much alarmed, shivered, had great nervous excitement and terror of death: his circulation became weak, his extremities and skin cold, and his surface covered with a cold sweat: all treatment was ineffectual, and he died within twelve hours.

As to the treatment adopted, little is to be said: throughout all, the treatment was purely expectant. In fever we have no specifics. The tongue may be foul, the secretions vitiated, the urine scanty, and the skin dry; but I question if our alteratives can be got to act on the stomach, liver, and duodenum, our diuretics on the kidneys, or our diaphoretics on the skin. The use of such at the very onset of the attack may do very well, and, no doubt, the timely administration of an emetic, an aperient, and a diaphoretic have, in many instances, cut short and warded off an attack of fever; but, when the disease has once set in, I believe, the administration of such will do more harm than good; all we then can do is, to stand by and assist nature, carefully watch our patient, and promptly combat symptoms and complications as they arise.

None of the cases noted required general blood-letting; I

never bled a patient labouring under fever; a few of the cases here recorded were bled before their admission into hospital; I have no hesitation in stating that they were thereby injured, that their disease was exacerbated, their debility increased, and their lives placed in great jeopardy. In the majority of cases we had marked symptoms of debility and prostration, and these frequently in combination with serious organic complications. Camphor, ammonia, wine, whiskey, and beef tea, were freely administered, and with decided benefit. I am inclined to give a decided preference to wine as a stimulant, as affording nutriment to a certain extent at the same time. I administered wine freely and unsparingly, without regard to the state of the tongue, being guided by its effects on the system generally, and specially by the sounds and action of the heart as indicated by the stethoscope (thanks to Dr. Stokes for his valuable remarks on this subject). In fact, throughout all the cases, I may say, the practice adhered to was the nutritive system. I believe the late much to be lamented and respected Dr. Graves did well for the fever-stricken sick and for the profession, when he made the remark, which his friend and eulogist Dr. Stokes has chronicled as what he at one time wished to be his epitaph, "*He fed fevers.*" The abdominal tenderness, when requiring treatment and accompanied by vomiting or intestinal irritation, was generally relieved by mustard cataplasms and turpentine epithems. The bronchial affections yielded to dry cupping, mustard cataplasms, and blisters, and where there was much difficulty in getting rid of the expectoration, infusion of senega, with ammonia, was beneficially administered.

Where the head was threatened or seriously engaged, as indicated by the "cerebral respiration" so accurately described by Dr. Graves, leeches and blisters, particularly the latter, were had recourse to, with marked benefit. There is another form of cerebral complication: it is not congestion, nor inflammation, but a peculiar kind of irritation; the patient is restless, sleepless, talkative, maniacal, frequently getting out of bed, difficult to manage, and not improved by mechanical or manual restraint. In such cases the timely administration of tartar emetic and opium saves the patient's life; unless one has witnessed the benefit derived from the use of this combination in the treatment of this peculiar cerebral complication in fever, it is impossible to tell how deeply we are indebted to the late Dr. Graves for his valuable suggestion and application of it as a remedial agent.

In conclusion, in the treatment of all the cases, the object

was, while carefully watching the disease, to avoid the "nimia diligentia"—to support the patients from the commencement, impressed with the idea that the disease was one of debility, and more or less engaging all the functions of the system, and at the same time to be prepared to combat formidable complications as they might arise.

This is, I believe, the true course to adopt in treating fevers; the disease not being a specific one, and we being as yet not furnished with many, if any, specifics for this or any other disease.

Art. III.—*On Aneurismal Sacs.* By W. Colles, Surgeon to Steevens' Hospital.

In the last Number of this Journal I published a few cases of aneurism, selected from my father's manuscripts; and in a remark appended by him to one of them in the year 1810, there is a doctrine propounded of which I find no further notice; but which, on consideration, appears to me to contain the true explanation of the process adopted by nature in her endeavours to control and cure this formidable disease; it accords with the various phenomena observed in its progress, and affords a ready explanation of those changes which no former theory of the disease accounted for. He considers the striated substance contained in the sac to be an effusion of lymph poured out by the sac itself. Surgeons formerly were satisfied with attributing the entire contents of the sac to a mere coagulation of blood, and their object in cure was to promote this coagulation, which they viewed merely as a mould of the interior, and as a plug to fill up the cavity, whereby a cure was effected. This theory was denied and refuted by Dr. Bellingham in his work on the Cure of Aneurism by Compression; but still he and other authors conclude that the blood first coagulates, and then, by some unaccountable process, forms the deposit. This explanation, so far true as it distinguishes between the coagulum and the layers of fibrine, is still deficient, as it gives the same origin to both, and fails to account for many facts observed in the progress and cure of aneurisms; whereas the doctrine here propounded would, I think, be found in accordance with the process adopted by nature in other parts, or in similar parts under other circumstances, and would offer a ready solution of the changes observed during the course of the disease, and lead to a due appreciation of the various remedies and means proposed for cure.

It was the doctrine of Mr. Hunter, that the blood was a living fluid; that the last act of its vitality was its coagulating—and this process is to be distinguished from its separation into its component parts: that the coagulation even prevented this separation; and further, that when in the body, but out of the circulation, it coagulated, therefore, it could not separate into its component parts. Hence we should conclude, that coagulation, and not this deposition of laminæ, was the natural change observed in blood in the body. If we examine blood extravasated within the body, we find it coagulates; that it becomes enveloped by a layer of lymph effused by the surrounding parts; that this sac encloses and finally absorbs the clot, or, if it be too large to be absorbed, or if any cause excite inflammation, this sac pours out pus, and the cure is effected by suppuration, as in abscess: but we never find the coagulum as if endowed with any action of its own, to be separated into layers.

We know that if we make an artificial cavity without exposure to the air, as in subcutaneous sections, lymph is effused, which forms a sac if there be any foreign body or blood extravasated; if not, it is poured into this space; this lymph becomes organized, fills up the cavity, and approximates the divided parts, and is either itself absorbed or goes to form new tissues; hence we would expect the sac of an aneurism to be subject to the same laws, and to pour out lymph with the same object. If an increased action be excited in many of the cavities of the body, we find lymph will be effused, and this lymph will often assume the appearance of layers; it is observed in the peritoneum, pleura, pericardium, trachea, bladder, but I think most frequently in the subcutaneous bursæ, especially in that of the patella. Why this lymph at times is effused in layers, and at others not, is not very satisfactorily understood, though the fact has been frequently observed, and attributed to renewed attacks of inflammation. In aneurismal sacs the constantly dilating force of the blood may renew the irritation, and cause a separation of the outer layers, whose tendency is to contract, from the sac which is forced to enlarge, and thus give rise to a fresh deposit.

When, by tying a ligature on an artery, or by some other injury to it, we break through the inner coats, the vessel is closed, not by the formation of a coagulum, though this materially assists,—for when a vessel is tied close to a branch, the vessel will unite, though no coagulum forms; but it is the edge of the wound made in the coats of the artery, and the areolar tissue surrounding it, that pour out the uniting lymph, which finally and completely closes the vessel; if this lymph is not per-

fect, we shall have secondary hemorrhage, though there be several inches of coagulum in the artery, for this coagulum does not adhere to the inner coat of the vessel: it assists, but not the most essentially. Therefore, judging from analogy of what occurs in other parts, we should expect that the coats of an aneurism would pour out lymph,—this lymph will have a tendency to fill up the cavity, and may form in layers from the continued yielding and enlargement of the sac; and that the only alteration which can occur in the blood is its coagulating; when it does so, it comes to be acted on by the sac; how far, if it continues fluid and circulate rapidly, it can act on or dissolve the lymph next it, is uncertain: but I strongly suspect it may have some such power, for we often find the edges of the inner layer of lymph shreddy, and as if corroded or even some particles of it removed.

If the former doctrine were the true one, that these layers of fibrine are deposited from the blood, it would be difficult or impossible to account for many appearances observed in the course of the disease. We would expect to find the outer layers more degenerate and quite independent of the sac; the inner the more perfect; whereas the outer layer is firm and of the yellow colour of lymph, appears better organized, is firmly attached, and in operations its separation is effected with difficulty, causing great pain: and as we approach towards the centre, the subsequent layers are softer, more tinged by the colouring matter of the blood, and the innermost one is often almost detached and shreddy, as if broken up and acted on by the current of the blood. We would expect to find these layers occur in all forms of aneurism, if the blood, and not the sac, gave origin to them; but we find in true aneurisms they seldom occur when the lining membrane is perfect. We would expect the great majority of cases of aneurism would eventually tend to a natural cure, for the layers towards the centre would be of so much less extent; they ought, therefore, to succeed much more rapidly, and soon fill up the cavity. Again, it is difficult to imagine the outer layer, which was first formed when the tumour was small, could become extended to the great size these tumours sometimes arrive at, when it is separated from its supposed origin, the blood, by innumerable interposed layers.

If the sac were so passive as this doctrine would lead us to imagine, how can we account for its forcing its way through the firmest bony obstruction, or its being itself absorbed; and when so, why the layers nearest to it are, to a greater or less extent, also deficient? When the further supply of blood to the trunk of the artery is cut off as by ligature, how can we

imagine any further action going on; the sac to become filled up; or what can cause that increased action, often observed when the sac goes on to suppurate? According to this theory, how can we account for the great number of cases recorded, where very slight pressure on the tumour has effected a cure, —a pressure which could not influence the fluid contents of the sac, or oppose the flow of blood into it? If the sac were large, and the opening in the vessel small, we would expect this to be a most slow and tedious case, as the quantity of blood flowing in would not be changed sufficiently to cause a quick formation of fibrine; whereas these are the cases we find to be most favourable and most amenable to treatment.

If this were the true account of the process of cure, we should expect the plan of treatment proposed by Dr. Wardrop, of tying the artery beyond the sac, would be successful in almost every case, for, if there be not a branch given off for some distance above the ligature, the blood in the artery, according to well-known laws, will coagulate; the blood in the sac also ought then to be at rest, coagulated also, and so effect a cure; but we find, unfortunately, the disease in general progresses, and perhaps even more rapidly than before. Or, why should we find, as sometimes occurs after the cure of the disease by ligature, a portion of the artery between the ligature and the sac in some cases remaining pervious? Or, after cure by compression, the entire artery unobstructed always up to the sac, and sometimes even in its entire course? If the coagulation from the blood caused the cure, it should always be observed to extend to the first branch above the ligature or sac.

This theory of the circulating fluid being the cause of the increase of the disease, and at the same time of its cure, leads to uncertainty and vacillation in treatment; at one time the object being, by bleeding and starvation, to diminish the quantity of blood, and at another, by nutritious diet, to increase its fibrinous element.

On the contrary, if we adopt the theory here proposed, and consider that these layers of lymph are formed by the sac, it would smooth away most difficulties; it would be analogous to what we observe to occur in other parts, whether in solution of continuity, in extravasation of blood, or in the closing of divided arteries. We can now understand the origin and progress of the disease; we have the blood of the circulation driven at each pulsation by the force of the heart and the action of the arteries, and tending to cause further dilatation of the sac; and to oppose this, we have the sac thickening and strengthening itself by the effusion of lymph, layer after layer;

but still we find the sac compelled gradually to give way, and increase in size, because, we know, it requires all the healthy power of the inner dense, firm coats of the vessel to resist this force, which we can hardly expect to meet in newly formed layers of lymph, no matter how thick.

We can understand how it happens, that when the force of this distending current is removed or moderated, this lymph will go on by the addition of new layers, by the contraction of the older, and by the action of the sac, no longer compelled to extend itself; till at length the entire cavity is filled up by lymph, and if the opening in the artery be small, this lymph may close up the opening and leave the artery still pervious; or, if large, will stop up the vessel; and when this is effected, all these parts will be gradually absorbed.

We can understand how a coagulum of blood in the sac may, at times, assist a cure, as in wounded arteries, but is in general not to be desired, because the cure is not perfect till the sac is filled with lymph; and to effect this, the coagulum must first be absorbed before the lymph can be poured out into the cavity, and this is a slow process, and while it is going on, if this coagulum be so altered, either by the action of the absorbents or the current of blood, as to allow the smallest quantity of blood to get into the sac from the artery, again the disease commences anew, the pulsation returns, and too often the patient is condemned to some more severe method of treatment, if not considered incurable.

We can understand that in false aneurism the sac will form these layers, as sacs in other parts; but in true aneurism the lining membrane is perfect, and it is rarely observed that the lining membrane of this or other parts takes on the tendency to pour out the lymph, and if a coagulum forms, it does not adhere to the membrane.

We can understand that the layer nearest the sac is more perfect, adherent, and its separation causes pain; while the inner layer is acted on by the current of the blood, being so far removed from its source. That when the sac is deficient in one part, the layers near to it are deficient more or less to a similar extent, and hence the tumour is more apt to give way at this point, and allow the blood to escape.

We can understand how it happens, when the opening in the artery is small, the case is more favourable, and more amenable to treatment, because the current of blood cannot be driven with the same force against the walls of the sac as if the opening was large and free; how, when, by loss of blood or other means, the force of the circulation is mitigated, the formation

of lymph will go on more favourably; how a slight degree of pressure will often affect a cure, because it gives support to the sac, enables it to resist the distending force of the circulation, to contract and form the layers which must now protrude into the cavity.

We can understand how it may happen that, after the ligature has been applied to an artery, a slight pulsation may be perceived in the aneurism for two or three days, because the blood is supplied in general from the lower portion of the artery; but the force is much diminished on account of its small stream and circuitous route, and now the sac can exert sufficient strength and action to counteract the distending force and to promote the consolidation.

We can also understand that mere coagulation of blood in the sac offers little chance of success: if the coagulum be extensive, it may give rise to suppuration, as it often does when extravasated into other parts; if more favourably circumstanced, it must be absorbed before the firm, organized lymph can perfect the cure.

We can understand the cases where the tumour has become solid and the patient considered cured, but, on resuming his former exertion and mode of life, the pulsation has returned, because this coagulum filled the cavity, and not true lymph: the coagulum was acted on by the absorbents or the current of the circulation, and allowed the fluid blood again to be driven into the sac.

We can also understand the reason of the failure of the operation of tying the artery below the sac, for a coagulum may form, but this coagulum is not a cure: it may fill up the sac and artery for a time, but the subsequent absorption or contraction of this coagulum will allow blood again to make its way along the vessel; it will again force itself into the sac, being only resisted by a coagulum which is not adherent to the walls of the vessel, and which will speedily yield to the force of the circulation; and, in relation to the sac, the operation does not improve it, nor assist it in contracting and effusing lymph, but, on the contrary, subjects it to a more violent action of distention from the blood. The adoption of this doctrine, considering the successive layers in the sac of the aneurism to be the product of the sac itself, and an effort of nature to oppose the dilating action of the circulation, may lead to a more accurate plan of treatment. We should have two objects in view,—to oppose, to lessen, or entirely stop, the current of blood which distends the sac at each pulsation, and by its constant action forces it to work its way through the most firm

resistance; at the same time to support the sac in its efforts to resist this distending force by throwing out layer after layer of organized lymph, to strengthen its walls and fill up its cavity. Thus we find many cases recorded where attention to only one of these objects has resulted in a cure, but the combination of both is, in general, requisite. The first is the principal one, and that which has chiefly occupied the attention of the surgeon; and I should consider nothing would more effectually promote this object than a closer observance of the practice of the older surgeons: keeping the patient quiet, on low diet, and subjecting him to small bleedings at short intervals; this may be also assisted by the exhibition of such remedies as control the formation of blood, or the force or frequency of the heart's action. Of the local remedies to effect the same object, recourse is frequently had to the ligature of the vessel, a practice latterly supplanted by the temporary compression on the artery, which retards or obstructs the flow of blood into the sac, or breaks the force with which it acted in distending the sac; so that now the sac goes on contracting, and filling up the cavity with layers of lymph, and is not disturbed in this operation.

The latter object, to support the sac, seems to have escaped the consideration of the surgeon, because the idea formerly was that, unless he could make pressure enough to obliterate the sac, or so as to allow the blood in it to coagulate, pressure was useless. But the records of surgery give us innumerable examples of cases in which this moderate pressure was alone sufficient, and often materially assisted in promoting the cure of the disease, especially when combined with frequent small bleedings, though the authors did not endeavour to explain the manner in which this pressure acted. This pressure should be moderate, its only object being to give support; if more, it would excite inflammation or absorption of the sac, and it would be more effectual when it could be applied so as to control the lateral dilating force of the circulation, as well as the perpendicular pulsation, that is, in cases where the the sac is superficial, and the fingers can be passed on all sides of it.

There is another inference to be drawn from the preceding observations, that is, we should not consider the patient perfectly cured, nor allow him to return to his previous mode of life, or his former exertions—not only till all pulsation within the tumour shall have ceased, but until we consider that there has been time for all blood to have been absorbed from the cavity, and its place supplied by these protruded layers of lymph, which are then in their turn to be removed; and if, unfortu-

nately, it should so happen that the pulsation does reappear, we are not to despair of effecting a cure, but again have recourse to the pressure, or whatever other means we had been before employing, and which had made such progress in the treatment.

We perceive that the ligature of the artery below the sac can offer very small chance of success, as it does not moderate, but rather increases the force of the circulation in distending the sac. We see also, that a coagulum in the sac, if large, is a great impediment to the cure adopted by nature, and may even give rise to suppuration within the sac, or may cause only a temporary cessation of the pulsation, the disease returning if by any means any fluid blood passes from the artery into the sac. And, therefore, these artificial and chemical means proposed and tried, of causing this coagulation, are, at best, uncertain and too often dangerous, by exciting an inflammation generally of an unhealthy character, and so destroying the patient; or if he escapes this danger, he must be subject to all the inconvenience of a tedious treatment; for his cure cannot be perfect,—he will be liable to a relapse any moment, before the complete absorption of the coagulum, and the deposition of firm, solid, adhering lymph in its place.

From the foregoing considerations we should also be led to infer, that we would have a more rapid cure in those cases in which the sac is soft, not containing many of these layers of lymph; because in old sacs the layers are more firm and unyielding, being acted on by pressure of the blood, and this pressure being removed, the subsequent filling up will be more slow than in a case where there are few laminæ; for, the current being interrupted, the sac itself will close in and contract to a considerable extent, and the subsequent effusion of lymph, being formed free from the action of the pressure of the circulation, will be more considerable, in thick layers, and with a greater tendency in itself to contract.

Influenced by these views, we have fixed principles to guide us in the treatment of wounded arteries. If the integuments unite over a wounded artery, a sac will be formed, and in this sac we have the means of cure; we assist it in its efforts. If the opening in the artery be small, it will often be sufficient to support the sac itself by moderate pressure: if not, we obstruct the direct current of the blood. This will allow the consolidation of the sac to proceed, and effect the closure of the wound. If the integuments do not unite, and the wound in the artery be large or oblique, there will be no tendency to its closing; the obstruction of the direct current will not suffice,

for the lower portion of the artery will afford a stream of blood at first small and weak, but as it finds no obstruction to its escape externally, increasing in size and strength after each hemorrhage. In this case we must control the current both above and below the wound; and if we rely on compression, this compression must be complete, so as to prevent any portion of blood passing along the artery, and be continued until the external wound has healed, until the areolar membrane and the lips of the wound in the artery have poured out lymph, and until this lymph has become fully organized, and formed a firm bond of union between the edges of the incision. We should also bear in mind that at times, where the wound in the artery has been small and in the line of the vessel, after the first gush of blood there has been nothing to call for surgical interference,—the wound had united firmly and rapidly. This fortunate event, although of rare occurrence, is, however, not to be despaired of; and to endeavour to promote this should be the great object with the surgeon.

Art. IV.—*On the Comparative Value and Properties of Ice and Chloroform as Anæsthetics; and the Surgical Cases in which each may be used respectively.* By Charles Kidd, M.D., Member of the Royal College of Surgeons, England; Member of the Surgical Society, Ireland, &c., &c.; Kingsland, London.

So much is now ascertained of the usefulness of ice as a local anæsthetic in surgical operations, we see it at length in private practice so often where chloroform is forbidden, that some comparative results of anæsthesia after ice, and anæsthesia after chloroform, must already have impressed themselves on every practitioner's mind. One of our chief surgical lecturers lately stated in London, in public, that the day was not far off when we should class chloroform as a discovery with the philosopher's stone, or any other fabled mythus of antiquity, so thoroughly would it have disappointed the world and be forgotten! I cannot say one shares in this conviction with any satisfaction: it may be so, but perhaps we shall have got something better than either ice or chloroform. We must make allowance, perhaps, for immature exaggerations on the part of the enthusiasts for ice on one side, of chloroform on the other. If the reader be not called on to entirely agree with the partisans of local anæsthesia, on the one hand, in their estimate of

benumbing cold as a preventive of pain and inflammation; of ice as an antidote to that

> "——— Macies, et nova febrium
> Terris incubuit cohors"—

that chloroform plague of my friend Dr. Arnott, the result of taking anæsthetics from the Americans;—if he find himself disagreeing also about ice being a specific for cancer, as urged by more than one of this school; much less will he be induced to give in his adhesion to the doctrine that chloroform is already going back to the alchemists, the very Mephistophiles of surgery, an institution or invention of our modern "table turning" times, of some invariably deadly kind, worse than the enchanted cup of Circe, and almost as bad as mesmerism. In avoiding one excess of exaggeration, it is to be feared we have had lately a tendency in this subject, after the classic maxim, to run into an excess of an opposite kind. Again, it is said that ice and chloroform are both equally dangerous, one leading to mortification of limbs and frost-bite, the other to syncope, asphyxia, convulsions, and death; quacks on every hand —and the term is used advisedly—who know very little, if anything, of chloroform, arguing with much lettered wisdom on these data, as they serve to disturb legitimate surgery.

The danger attending either ice or chloroform is not very great, if the proper use of these agents be understood. In the practice of medicine, it may be asked, are we not every day in the habit of using dangerous, nay, deadly agents, yet in this active danger consists their value. Need we refer at all to our own art for illustrations of this? Does any one travel one hundred miles in a railway, is he not in danger of his life? Actuaries tell us also the exact proportion of shipwrecks to ships, off the coast, in a month; but this does not prevent any one going in a railway or on the sea, as it should if the argument, one death in a thousand, against chloroform held good. An overdose of chloroform or of ice will kill with as much certainty as an overdose of opium, it is true: a fire also will kill, but if it were not fire it would not warm; opium also will kill, but if it were not opium it would not produce sleep. We have fallen here, in other words, on the time-honoured sophism of arguing against the use of chloroform from the abuse, whereas the real tendency of experience leads to a more extended but more cautious use of chloroform.

It has been recently suggested that in looking for the causes of death from chloroform, we have directed too much

attention to the source of life in the great nervous centres;—Romberg, with Dr. Marshall Hall, rather looking on that gossamer webwork of reflex nerves, so intricate and so wonderful, as in reality the proper nervous system, influenced by anæsthetic vapours, rather than what are popularly known as the large brain masses, thinking principle, or sensorium,—sensibility and pain, the great outlying roots or sources of consciousness, so to speak, being rather referred to, or *regulated* by, the soul or mind at the centre, than arising there. Chloroform, with true logical precision, may, in fact, be looked upon something in the light of any other physical agent, electricity, light, heat, cold, &c., as acting on the general nervous system through the blood. Much, if not all, of the danger of chloroform inhalation arises from going beyond mere anæsthesia, and by overdoses abolishing nervous motion as well as sensation; in fact, saturating the nerve matter and blood, so as to render one unfit to respond to the proper motor stimulus of the other. In some patients, from idiosyncracy of frame, the larger dose, unguardedly administered, even produces all the phenomena of asphyxia or apoplexy, such as stertorous breathing, insensibility of the eyelids, &c., often abrogating also that complex reciprocal action of one distant part on another, which we cannot very often on the instant explain, but seen also in epilepsy, convulsions of children, hysteria, tetanus, &c. These are small or secondary matters, as it were, in the exhibition of chloroform, which in practice, however, come to be points of very great importance, and worth dwelling upon. We may, in fact, use chloroform vapour like the odours on the banks of wild thyme and other flowers of the fairy Titania, to allure sleep and banish pain, or illustrate with it all the deadly suffocating horrors of the upas tree. Any one who has seen a death from chloroform must be struck with its sudden somatic character, so like what we read of the upas tree suffocation. A very small per-centage of other vapours, such as carbonic oxide, mixed with atmospheric air, will, in the general phenomena, simulate chloroform, with this difference, that they end in undisguised asphyxia; the phenomena, for instance, caused by one of the oxides of nitrogen (laughing gas) are also in point. The dogs let into that celebrated asphyxiating grotto at Naples, as well as men sometimes taken up out of brewers' vats or foul sewers, all go to show that anæsthesia is not confined to ice or chloroform. A few years ago it made a great noise in England that ether, being inhaled, had killed asthmatic and other patients, yet nothing was made of the fact. In that singular old book, "Burton's Anatomy of Melancholy,"

it is stated that a ball of opium, when inhaled or smelled to, causes sleep; and pillows of opium, hops, and henbane, were much used among the Æsculapians of that period: yet all are now nearly forgotten.

It is well to remember that something like 15 or 14 per cent. of chloroform is generally considered the *maximum* which air respired by patients can contain of this agent; the law of the diffusion of gases of Professor Graham, no doubt, would settle the exact decimal, about which we are not now particular, the practical fact being that a proportion, a little over half, of this, even in animals, will cause death almost as certainly as the brewers' vat or a foul sewer: great care should be used, therefore, that chloroform does not get mixed up with heated air or hot sponges in surgical manipulation, as a larger percentage of vapour would be given off in excess. It does not seem generally advised by surgeons, except in the case of operations on children, to mix chloroform with any other fluid, such as spirits of wine, to dilute its powers; yet it is a matter very deserving of notice, as then it is quite conceivable we may make sure of the proper proportion of chloroform, *which should never exceed* 5 *per cent.* in the air respired. If we consult the safety of our patient, these facts cannot be repeated too often, till we are assured of the harmlessness of chloroform as an anæsthetic. In testing the activity of chloroform, the absence of the reflex action of the eyelids, in persons under its influence, is not, as recently urged amongst wounded soldiers in the Crimea, the *best* test of danger; it is, perhaps, the *last* test; and the French military surgeons, who have now used chloroform in tens of thousands of cases, have observed the more rational advice never to wait for this total abolishing of all sensibility, as bullets, balls, and fragments of shells, are best extracted in the *second* stage of chloroform inhalation. A very safe substitute for pure chloroform seems to offer in what is called "chloric ether," or a solution of chloroform in spirits of wine: chloric ether itself, as we might have theoretically expected, has no existence. In America, the birth-place of anæsthetics, a mixture of two parts of spirits of wine and one of chloroform is used under this name, a solution being thus obtained giving off 8 to 10 per cent. of chloroform. The proportion of chloroform necessary for particular patients, in other words, the doses of chloroform required in surgical operations, vary very much according to the age, nervous and muscular development, emotional excitement, &c., of each patient.

Pain, it need hardly be observed, as requiring either ice

or chloroform, is no respecter of persons, nor is there any medical greatness or superior skill in wishing patients unnecessary pain; even our wounded soldiers, the bravest men in the world, will wince more at the knives and saws of the operation-room than at the bayonets of the enemy; to deny them chloroform seems unphilosophic as regards pain, and not very full of meaning as regards surgery. Some of our greatest philosophers have been our greatest cowards on this point of physical pain: when Bossuet, for instance, one of the greatest men of his day, was told he had a disease requiring a surgeon, he became quite unmanned, and would not listen to the words, 'surgical operation;' D'Alembert, the friend of Newton, also another great man, refused to be operated on for stone, and no entreaty would induce him to undergo the pain of a single incision; even Sir H. Davy, in our own age, entertained some very singular ideas as to the nature of consciousness and organic life, believing sensibility remained in the dead body till chemical decomposition was far advanced, and would not for the universe permit a post-mortem examination of his body to be made, fearing the pain! What Dr. Hall in his memorable notice on chloroform in the Crimea may have intended by the surgeon's knife or pain being a stimulus during the shock and collapse of the system torn in pieces by fragments of a shell, or a soldier's arms or ears hewn to pieces by a sabre, is not easy to conceive; but this I know from observing at least a thousand operations during the past twelve months under chloroform, and having talked the matter over with many friends, such as Mr. Erichsen, Mr. Fergusson, Mr. Coulson, Mr. Birkett, Mr. Simon, Mr. Skey, &c., that their experience is directly opposed to that of Dr. Hall. We even still, perhaps, with all the valuable resources of chloroform and ice, allow too much pain in surgical operations; there is no peculiar surgical brilliancy, as we have just said, in inflicting pain on a sick fellow-creature. Our art, or the mission of the medical man, if anything at all, is as much to lessen pain as to lessen hemorrhage or fever; or do we sometimes imagine pain a non-existent quantity? or believe with one of the Germans, Schlegel, that pain is a metaphysical or subjective abstraction, existing only, as he thought, for the imanary purpose of giving a zest to pleasure? pain merely serving to create transient overpowering impressions in the human mind, to make place for elevating emotions by contrast, which we call the sublime,—the terror of falling off a cliff into the sea, the fright of a thunder-storm, and so forth, according to Schlegel, being only ideal modifications of pain, but in reality a form of pleasure termed the sublime. A true philosophy of pain is very

much mixed up with the use of chloroform; metaphysical abstractions do not satisfy a man having his leg removed without chloroform. Shakespeare, more true to the world of every-day existence, and not analyzing the sublime or the subjective, gives us the pain and turmoil of human passions as making up even the entire sum of human every-day life, and when he wishes to give us a world free from pain and full of the "beautiful," he shuts out passion and pain by an anæsthetic of his own: the witching forgetfulness of Oberon, the fairies in their dreamy twilight scenes, amid their enchanted flowers and charms, giving us some singular analyses of sleep, and very animal emotions and consciousness; nay, almost anticipating the phenomena of chloroform inhalation.

We have, perhaps, two chief points in practice to observe as regards anæsthesia: the nature of the anæsthetic we use, and the peculiar constitution of our patient before using it. From some considerable observation of several thousands of operations on persons under the influence of chloroform, I think I may say that we did not formerly attend sufficiently to the various stages of chloroform inhalation, and to sufficient slowness in bringing the system under its effects. A minute, or two minutes (into which all the various stages were huddled together), was about the time originally allotted to the process, which is now extended to about ten or twelve minutes; it is done also more cautiously, and according to stages, the operator, as a general rule, watching the respiration, and pulse, and general sensibility of the surface. Some practitioners, with whom I am inclined to agree, advise the patient to be brought under the influence of chloroform in a darkened chamber, not in the streaming sunlight of the operating theatre—very much of the overdosing by chloroform (and it will be remembered we have had nearly one hundred deaths already from this agent), arising, they believe, from the increased quantity called for to dull the sensibility caused by the nervous alarm and noise of operating theatres. We lose sight, perhaps, even still too much of the analogy, if not identity, between ordinary sleep and the sleep of chloroform. It is true, according to the poetry of some psychological writers, that sleep will seal up the ship-boy's eyes, and rock his brain in the noise and rattle of the storm, or something of that stereotyped character; but this is not a normal condition, and, like the sleep of the traveller on Mont Blanc, is probably the result of the ship-boy's exhaustion and of habit. The sleep of apoplexy, so to call the coma of that disease, the sleep of narcotic poisoning by opium, not matters of habit, are neither very different from the sleep of

chloroform, observing the same gradations, the same loss of consciousness, power of motion, &c.

We are obliged to shout in the ears and drag the body which is dead asleep from opium, up and down an apartment, to wake it *out* of such fatal sleep; yet we do the very same, as far as dragging the patient and the noise of the operation theatre, to get him *into* the sleep of chloroform.

Chloroform acts on the system evidently in a progressive way, and we have now probably arrived at four well-marked stages of chloroformization. If we watch an infant, in whom the muscular system and the cerebellum are not yet well developed, getting under the effects of chloroform, we notice the first faint struggles gradually becoming less and less, and ultimately the shrill crying and fright give place to a gentle sleep. We have here the *first* and *third* stages of chloroform well marked. In strong, muscular old men, on the contrary, as a general rule, it is all a struggle and plunge from first to last, the muscular system in them forming such a large portion of that connected with the brain as acted on by chloroform. This is, perhaps, the *second* stage well developed. In females, again, about to undergo what they conceive a formidable operation, for the removal of a breast or limb, where everything to them appears a world of anguish and mental anxiety as to their surviving such operation, the action of the chloroform may be observed to be almost confined to the emotional parts of the brain and intelligence, those parts most excited by the emotions thus brought into play. It is very interesting to remember that irritation, by surgical irritants and by chloroform, of the anterior and middle cerebral lobes (so much engaged in the emotions and intelligence) does not cause convulsive movement, but gives rise rather to manifestations of excited operations of the mind. We here go back again, so to speak, to the first and third stages, and the patient talks or sings, and recounts half her life, but suddenly falls off into the third stage of complete anæsthesia. Independently of the various proofs of the special function of the anterior lobes of the brain, derived from pathology, perhaps I might mention here the case of a child, often seen at St. Bartholomew's Hospital, in perfect health, but in whom the whole front of the forehead above the frontal sinuses is widely open, the result of a portion of the bones of the skull removed four years ago: the *dura mater* and brain pulsation are quite perceptible. This child has no convulsions if the parts be pressed, but gets immediately stupid. Chloroform would probably make her an idiot. Her memory and mere instinctive feelings of eating, or walking, or drinking, are good; but though twelve

years old, she is puzzled by any purely mental exercise; she cannot multiply twice three as six, but she recollects she was told so; memory seems to come after the fact. I believe this part of the brain is that first affected by chloroform in the form of a lethargy or drowsiness; contemporaneous, perhaps, with this change, however, another is also coming on, a specific irritation of the "tubercula quadrigemina." The limbs, as familiarly known, are thrust wildly apart, sometimes requiring great force to restrain them. I think one now and again remarks a curious similarity between this stage of chloroform irritation and a fit of hysteria. It is not at this second period that the fatal *fourth* stage, or fainting or syncope occurs or is to be feared, this second stage, in adult men, being generally looked upon rather as favourable than otherwise; it sometimes approaches the confines of epilepsy rather than hysteria; more generally consciousness is not yet abolished.

To this succeeds the third stage, or that of general anæsthesia, or absence of feeling, beginning in the inferior half of the body first, or that more immediately under the influence of the cauda equina, and spinal nerves, subsequently engaging the superior or anterior segments of the nervous masses and brain, more particularly the corpora striata and optic thalami; these great centres of feeling and touch not any longer responding, as was their wont, to external impressions of pain or feeling: or, if we adopt the view of Romberg, there may be no special action of a centripetal kind—no specific action at all on one part of the nervous system more than another. But that the chloroform has now spread into all the capillaries, while the peripheral distribution of the nerves of feeling and touch, spread out over the skin and general surface of the head and upper extremities, diaphragm, &c., being far more complex about the fifth and seventh nerves and the head, a larger quantity of chloroform is required for them than that necessary to change the sensitiveness of the lower limbs,—the sensorium itself, as long since well supposed by Locke, becoming ultimately involved from want of ideas conveyed from the senses; in a word, all that part of the brain, conterminous with the corpora striata and centre of volition in the anterior masses of gray matter in the cord and "locus niger" with the vesicular matter of the mesocephalon and medulla oblongata, becomes anæsthetized in this state. It is idle to say that our patient in this state is not in the balance between life and death; a single dash of cold water or breath of fresh air, to keep the inward clockwork mechanism of the consensual system at work, may save him or its absence may destroy him; any excess of chloroform hastening him into

the fourth stage, or that of faintness and collapse. This state of syncope differs, however, from the *tabula rasa*, to use the words of Locke, which the brain represents in simple anæsthesia from the absence of ideas through the consciousness, and which may be recovered from as in ordinary sleep.

Chloroform has certain positive effects on the muscular system which should not be mistaken for mere involuntary action during anæsthesia, which may or may not be a negative result of the mere presence of chloroform in the capillaries. Chloroform, for instance, will tell simulated epilepsy among soldiers who wish to get out of the military service, from real epilepsy; one set of convulsions are replaced by anæsthesia and sleep, while the other convulsions are increased. Chloroform is also said to induce tetanus and hysteria; and in post-mortem researches of animals dying of chloroform, it is said the left side of the heart and aorta are always empty,—all these facts pointing to the marked specific action of chloroform on the muscular and motor system, quite distinct from its action on the sensitive tract of the cord.

If we might venture to systematize from the data afforded every year in practice, I would say, there are four well-marked stages of chloroform inhalation, and specific surgical operations adapted to each. In the *first* stage, simple consciousness is partly or wholly abolished: in this stage polypi of the nose may be removed; extirpation of the globe of the eye may be practised; hare-lip operations are easily performed; diseased bursæ from the knee, when not removed under the effects of ice, are conveniently cut out; and perhaps, trephining of the skull, when the patient is not already comatose, may be most safely executed;—any operation where in fact we wish merely to dull the over-anxiety and irritability of patients. In the *second*, or stage of convulsive excitement, so like hysteria, all midwifery cases, perhaps, should be conducted; the deligation of large arteries, if possible, should be accomplished, as the muscular and other landmarks for the knife are thrown into strong relief,—the sartorius and others about the thigh, for instance, in deligation of the femorals. In this stage, I think hernia cases might be operated on, more especially when the sac is not opened, as the seat of stricture especially, if muscular, is soon felt; and some of the best surgeons deny that chloroform in the third stage of anæthesia is any advantage to the taxis. Rhino-plastic operations are better done in this stage, though the patient may plunge a good deal, as it is not safe to do them in the third stage. Syme's and Chopart's operations also on the foot, as the lower extremities are affected by chloro-

form earlier than the upper. All gun-shot wounds, perhaps, might be searched also, as the muscles assist in disengaging the ball; while on the other hand, catheters should not be passed in this stage, or perineal sections made, as Wilson's and other muscles of these parts are thrown into violent spasms, and the rectum or other parts might be wounded.

In the *third* stage, or that of complete anæsthesia, the reduction of old dislocations is, perhaps, best effected; excisions of joints and various amputations, lithotomy, perineal sections of various kinds, are also well performed, with the great majority of all other surgical operations not already specified.

In the *fourth* stage, not always reached, but always to be apprehended, the patient faints or swoons, I believe sometimes from the hemorrhage and "shock" of the operation, or sometimes from these, in conjunction with diseased or fatty heart. It is very unpleasant when this occurs in the middle of an operation; but it is a very strong argument for the substituting ice and local anæsthetics, where at all possible, for such a powerful agent as chloroform.

There are various affections which are said to be incompatible with the application or use of chloroform in surgical practice. Modern surgeons who have studied the dangers and advantages of chloroform with patient and particular care, among other contra-indications, refer especially to the following circumstances:—1. Diseases of the spinal column of a serious or organic kind as interfering with the reflex functions of parts not under the control of the will or ordinary sensibility and beyond our power, always suggest caution in the use of chloroform, if such diseases of a nervous character do not entirely contra-indicate its exhibition. 2. An unusual difficulty of benumbing sensibility, or the fact of a patient remaining passive to the influence of chloroform, must also be looked upon with very great caution, if not suspicion, as the cumulative doses of chloroform in one part of the body will do mischief in another part when least expected. I cannot say this agrees with ordinary experience in English hospitals, as I have seen patients obliged to be removed off the operating table, as no amount of chloroform seemed to affect them; others used almost ounces before an old dislocation, perhaps, was reduced; while in one or two cases—one especially at Guy's, another at St. George's Hospital—the woman was dead almost as if killed by lightning after a few inhalations indeed. 3. Various lesions of the vascular system, such as atheromatous deposit in arteries, or fatty degeneration of the internal fibres of the heart itself, it need scarcely be observed, have also been forcibly

urged as causes of death during the use of chloroform; when we remember, however, that the first effect of chloroform is usually to excite the muscular system and quicken the pulse, it will be readily seen that the action of this agent as an anæsthetic, is not, as might be conceived *a priori*, to depress the heart: a general impression now prevails that too much emphasis has been laid on this single sign or symptom as a contra-indication to the use of chloroform. 4. It has been lately urged that the existence of hysteria in a patient is sure to lead to death, if such a patient be placed under chloroform. 5. Great caution also is necessary that a patient shall not have a full stomach at the time of an operation under the influence of chloroform, as impeding the involuntary action to the diaphragm. 6. Excess of one of the most marked of the reflex functions connected with the generative system, to which it is not necessary further to allude, has also been pointed out by continental surgeons, as weakening the spine and reflex system generally, and if suspected in patients, should prevent them using chloroform. My friend, Dr. Snow, lost a patient once in whom there was a feeble intermittent pulse; and this liability to faint, with our experiences, now make men more cautious of such cases. A suggestion has been made in operations about the head and neck, to defer tying the ligatures in arteries, as in deligation of the carotid, till after the effects of the chloroform shall have passed away, the danger being too great, perhaps, of a stoppage of all sensibility at one side of the brain, suddenly added to the altered sensibility from anæsthesia of the general nervous system. In one case of death from chloroform, a man operated on at the Ophthalmic Hospital for extirpation of the eyeball, or, rather, about to be operated on, one is almost afraid to think that there was sufficient cause for death, if it could have been suspected, as with some other contra-indications, there was very general œdema of the brain substance. During the first four minutes of inhaling the chloroform vapour, nothing unusual occurred in this case; the pulse rather increased in fulness and volume, as it usually does. The familiar sign of excitement next followed; but it was suddenly observed the eyes were fixed and staring, the arms quite rigid (irritation of the brain substance?), the face was contorted, respiration stertorous, and after a few sighing efforts at respiration, and one or two gasps, the man was dead. Any ligature of arteries here would have obviously destroyed the little irritability of the brain which remained after the first stage of the etherization. It has been rather urged, as we have just said, not with-

out reason, to open a vein in such an emergency, and thus relieve the congestion and insensibility of the parts about the base of the brain and larger sinuses. It is singular how opinions vary as to the cause of death: one section of observers saying by asphyxia; another, by syncope. I believe *both* are right. In France and Germany it is believed by syncope, because they never push chloroform to the state of asphyxia. In London we say asphyxia; but asphyxia AND syncope, in the proportions of 4 and 6 in every 10 deaths, is nearer the truth.

The sleeplessness and headach at night, induced very often by chloroform, and sometimes so embarrassing after surgical operations—so embarrassing, indeed, as to make some hospital surgeons disapprove of chloroform altogether, and adopt ice as an anæsthetic, are caused by this congestion of the sinuses of the brain; pure air and some gentle stimulus, however, seldom fail to act as useful antidotes. Chloroform acts more safely on the young than the old; or as it might, perhaps, be otherwise explained, in the very old we have a smaller stock of irritability to work with, and once extinguished by chloroform it is not easily restored; in the old, too, there is more organic diseases of various kinds latent in the system than in the young. I have seen Dr. Snow, however, use chloroform in cases of hemiplegia, &c., in operating for stone, with the greatest safety; where patients of this kind, however, are in impending danger, if the tongue be pulled out with a forceps, cold water dashed, and, perhaps, ammonia *not* used, they quickly come about again. It is curious, many of the deaths occur as the patient is *about* to be brought fully under its action.

The activity or value of chloroform, as regards the lower animals, is very instructive, and would seem to be, popularly speaking, in proportion to the development of the respiratory and circulatory systems—in other words, in proportion to the complexity or non-complexity of the reflex and general spinal system of nerves.

Birds, for instance, are much easier affected by chloroform than lizards or snakes; in birds, it need hardly be observed, almost the entire frame, with the cavities of the long bones, are engaged in respiration; the optic ganglia, the analogues of the tubercula quadrigemina, are wonderfully developed. In lizards, on the other hand, and in snakes, the irritant action of chloroform on their large spinal cords and muscular and reflex systems is more marked; the latter creatures, though torpid previously, are roused up by chloroform; like fishes, these creatures breathe chiefly by gills, their brains are less developed than those of birds, but their spinal system is, perhaps, more complete. The

posterior half of the spinal cord, as a general rule, in all animals, is the part first anæsthetized, or, in other words, perhaps the complex arrangements of the nerves about the head, as remarked already, require a larger quantity of chloroform, or resist it longer.

A practical lesson of caution arises from this, that we should observe care in using chloroform in patients where we have to suspect *ramollissement* of any of the spinal nervous centres, as we cannot gauge the quantity of chloroform. A previous tendency to epilepsy also is equally dangerous, or anything wrong with the consensual group of actions. A stethoscope should always be run across the chest, and percussion also tried. We should be apprehensive of danger where disease of the restiform bodies exists, though the cerebellum, something like a helm to direct the motions of the ship, is not a part obviously affected by chloroform, nor connected very closely with the cerebrum. The emotions of joy or fear must not be forgotten in our estimate of the effects of chloroform; none of us, in these war times, pretend to know fear; let an omnibus in the street crush any one's leg against another omnibus, and we feel palpitation of the heart and fear; it is purely through its nervous connexions, and probably through the sympathetic, that this influence of mental emotion is conveyed. A severe fright, or a severe burn from a fire, may even stop the action of the heart altogether. In chloroform, in a word, as Cullen said of typhus, we must "obviate the tendency to death;" but it is clear, before striving to obviate this tendency, we must know, in some shape or another, in which direction the tendency lies,—this can only be known by an acquaintance with our patient's constitution. Electricity along the phrenic nerve is said to restore the lower animals when labouring under impending death from excess of chloroform; fresh air received into the lungs will be found, however, the best antidote; but, unfortunately, the patient in extreme danger, and this is too often forgotten, is not breathing at all, so that he does not receive the ammonia generally given him to smell (and very objectionable it is) into his lungs; the spark that supplied the internal respiratory or phrenic is gone out; dashing cold water to wake up the *external* respiratory nerve and trifacial is our last resource; this, with suddenly opening all the windows and doors of the apartment, generally succeeds.

Chloroform does not seem to produce its effects as a mere sedative, by the reaction of a simple stimulus,—like as the reaction of a walk up Mount Blanc produces sleep, as ingeniously but erroneously put forth in a series of lectures at the Polytechnic Institution lately in London,—as patients generally kick out, like giants of the Brocken, wide awake, though they are, to all

intents and purposes, partly insensible and asleep—,patients are rather as if in a nightmare or state of somnambulism, they have told me. They heard the surgeon's saw sawing the bone in an amputation, but they remarked no pain,—how unlike natural sleep, but how like nightmare! A red hot cauterizing iron carried round a man's ankle or shoulder, blazing red and smoking, gives him a sense of something rubbing the limb, but not the sense of red hot iron. Sometimes the scene is a little ludicrous; indeed, as a general rule, patients do not believe their legs or arms are off at all, so completely together are the stimulus and sedative action and abolishment of consciousness, and so quickly does every thing pass. The late Marquis of Anglesey used to feel his leg buried at Waterloo, and used chloroform to make him forget it. I have known a patient satisfied in the same way, on the other hand, in his own mind, for a long time after chloroform, that his leg was still on, and not taken out at the hip-joint! "It's all very well," he said, "but I feel the limb just as it was a month ago, and when all them there bandages are off, I'm sure to see it again,—not a wink on me, sir, I assure you." "But it is off long ago." "Ah, you won't persuade me to that; don't I feel it, as usual, bad at night and better towards morning,—the frost, too, pinches it above a bit, I assure you." Sailors, in general, are very demonstrative on this point that their legs are not off; one poor fellow, after an operation under chloroform in one of the chief hospitals in London recently, and after the part cut off had run the gauntlet of two or three microscopes, cut up, in fact, into as many little bits as there were clinical pupils, thought himself only in the middle of so much dead bones and surgeons when he woke up, something, perhaps, like Sinbad buried with his dead wife, or a new kind of nightmare; he was satisfied for a while, however, after all was over, that the amputation was only beginning. "The patient is now to be taken away," said the surgeon to the nurses and assistants, "and let him have a little wine if faint." "Avast! heave to, mates; better luck the next time; though 'tisn't cut off, by George, I am ready to pay all the expenses." And the poor fellow went off under full canvass in the arms of the gate porters, with his purse in his hand, confidentially assuring every body, for some hours after, that he "didn't mind a £5 note, but off that there larboard limb should come." Another patient, last month, would not believe his leg was off high up near the hip, and pulled out all the ligatures "to try," and nearly died of secondary hemorrhage and necrosis of the bone. All this singularly well shows what slaves we all are to simple consciousness.

It has been objected to chloroform by divines (and the mo-

ral argument with some persons outweighs a thousand others) that we ought not to use chloroform, as we trifle with man's consciousness, or self-identity; but from the mode in which we have just explained the operation of chloroform on the capillaries and peripheral parts of the nervous system, its action is, like ice, not necessarily on the sensorium at first. The sensorium is like the sun-dial, with clouds obstructing the sun. An hour is blotted out of this sailor's existence by chloroform; he leaves the theatre as he came in: no impressions have been sent to the sensorium by the consciousness, yet both are again as perfect as before the operation.

Where a distinct contra-indication to chloroform exists—such as a tendency to epilepsy, hysteria, fatty heart, &c.—ice will be found a most valuable substitute; indeed, in evulsion of toe-nails, opening abscesses or whitlows, amputating fingers, in the operation for strangulated hernia, in all fatty tumours, hare-lip, staphyloraphy, cancer of the lip, diseased breast, &c., it is doubtful if ice should not be the rule rather than chloroform. The method of using it is very simple, and consists chiefly in mixing equal parts of pounded ice and common salt in a small muslin bag, and carrying this to and fro across the part to be operated on for two or three minutes. I have seen bad effects from keeping it twenty minutes, as is sometimes done, as the parts seem entirely killed, and no reaction sets in, very troublesome sloughing arising, in place of healing by the first intention. The period of the application of the ice should be timed by a watch, and never allowed to exceed five minutes. The part usually becomes white or blanched, and congealed; the patient also feels a tingling, as if a mustard sinapism were placed over the part. In London ice is as easily procured at the fishmongers' shops as salt; but in rural districts it may not be so readily purchased. In such cases some of the artificial modes of freezing might be adopted.

Where, on the contrary, chloroform is preferred to ice, we should pay attention, as already indicated, to the various stages of chloroform intoxication, and the different operations adapted to each; we should be ever on our guard against the sudden effects of an overdose precipitating the last stage, or that of asphyxia. Chloroform should not be used by unskilful persons, as deaths under such circumstances help to bring it into unmerited disrepute; its exhibition, in scientific hands, being comparatively safe, as well shown in the Crimean campaign of the year lately terminated.

Art. V.—*Observations on the Diagnosis and Complications of Stricture of the Urethra.* By Samuel G. Wilmot, M. D., Surgeon to Steevens' Hospital; Lecturer on Surgery in the Carmichael School of Medicine, &c., &c.

In viewing any disease in a purely practical light, were we to consider it *abstractedly*, we should be often led to entertain a very imperfect idea of the nature and the difficulty of the task which the practitioner must in general perform. This observation applies with peculiar force to stricture of the urethra. If this disease be contemplated *abstractedly*, as a mere narrowing of the urethral canal, by which obstruction is offered to the escape of the urine from the bladder, we take but a very partial view of the case, and greatly under-estimate the difficulties which beset the surgeon in dealing with it; but if we regard it in all its bearings—in relation particularly to its differential diagnosis, its complications, pathological effects, &c., a wide field is opened, which it demands no little labour to traverse, and no small degree of sagacity to explore.

It must be remembered that every case of difficult micturition is not necessarily one of stricture, though the cause may lie in the urethra. There may be force and increased frequency in expelling the urine, as well as diminution in the size of the stream, and still no stricture exist; nay, more, in the absence of urethral lesion need there be any mechanical impediment whatsoever, prostatic, calculous, or otherwise, to the evacuation of the bladder. Further, there may on the one hand be all the symptoms of obstruction to the escape of the urine, and on the other a decided impediment to the passage of some kinds of instruments along the urethra, without stricture, in the accurate sense of the term, being present. Peculiar states of the bladder and of the urethra, in which there exists no mechanical obstacle to the expulsion of the urine, will assume all the characters of the latter disease. There are thus many sources of deception both to the individual himself and to the surgeon, which may lead to great mistakes; hence it becomes all-important to attend carefully to the differential diagnosis of stricture of the urethra. Want of proper contractile power in the bladder may cause the semblance of stricture. In this case the urine is feebly expelled; force more or less must be exercised by the abdominal muscles, and the stream is consequently diminished in size. Sometimes the urine escapes only in drops, or falls perpendicularly between the patient's legs. This condition, it is well known, is in many instances the prelude to paraplegia, being the first signal given

of the paralysis which is about to supervene. Often, however, atony of the bladder is quite unconnected with the cause here mentioned, and seems to result from various circumstances. Sometimes it would appear to depend on a relaxed state of the entire system, and is then benefited by whatever tends to give general vigour, and occasionally it can be traced to the custom of retaining the urine for a long time. Boys frequently acquire the habit of holding their urine for several hours consecutively. This gradually destroys the natural sensibility of the bladder to its ordinary stimulus; and when they grow up, and are placed under circumstances which render it inconvenient to obey the call to micturate as often as it may be experienced, they can readily resist it. Thus by degrees the organ loses its tone, and becomes unable to expel its contents except slowly, feebly, and in a narrow stream.

But exactly an opposite condition of the bladder, one of *increased* contractile power, is equally a source of deception, by leading to the manifestation of the symptoms belonging to stricture. The bladder acts frequently; hence the body of urine in the organ being small, the stream from the urethra is small also, and as there is great urgency and force in expelling it, the case necessarily wears all the appearance of an obstruction in the canal. It is obvious, then, that two precisely opposite states of the bladder will cause the exhibition of the rational symptoms of stricture, and to such an extent, that the only means of dissipating the illusion, and clearing up all doubt, is to resort to the introduction of an instrument.

Again, similar states of the urethra—diminished and increased contractile power—may produce such an effect on the stream of urine as to make the case simulate stricture. The urethra may be altogether in a relaxed and flabby condition, and the contractile tissue with which it is surrounded, be it muscular or not, and which undoubtedly assists in the final expulsion of the urine, may lose its tonicity, so that the canal can lend no more aid to the bladder in micturition than if it were a tube constructed of some inanimate material; accordingly, the urine can only be expelled in a slow, feeble, and scattered stream. This state of the urethra often affects its entire length, in which case it is met with generally in persons of nervous temperament, particularly such as have suffered from aggravated dyspepsia, or who have enfeebled their health by long-continued habits of dissipation. Sometimes, however, and the cases are rare, this relaxed condition of the urethra is partial, occupying the portion in general which corresponds with the root of the scrotum, and then a remarkable effect is

produced. The urethra having lost its natural elasticity and contractile tone at one spot, cannot here resist the force of the urine as it impinges against it; accordingly it yields, and gradually becomes expanded into a sort of dilatation, which constantly retains more or less urine. When pressure is made with the fingers on the perineum, corresponding with the distended spot, a jet of urine is suddenly jerked out, and when the patient walks about, there is a continual stillicidium which keeps his clothes wet, and deprives him of all enjoyment. The collection of urine in the urethra must of course impede the escape of that from the bladder; force must, therefore, be exercised in order to expel it; the stream for the same reason is reduced in size, and some pain is often experienced; hence the case, so far as outward characters go, exhibits the strongest likeness to stricture. This remarkable and interesting pathological condition of the urethra would seem in general to have its origin in chronic inflammation of the lining membrane, to a limited extent, which gradually extends to the other tissues of the canal, destroying eventually its elastic and contractile properties; and, indeed, if the urethra be furnished with a *true* muscular coat, it is easy to conceive, reasoning from analogy, how inflammation of its mucous coat will lead to paralysis of the former, and consequent dilatation, as in the case of other muscular tubes, the intestinal one for example. Many persons who have never had the least tendency to stricture find that some time after passing water several drops of urine will escape when they sit down, or happen to make pressure in any way on the perineum. This arises from a deficiency of expulsive power in the urethra, and where the individual is in the habit of voiding his urine hurriedly, without waiting to expel the last drops completely, the relaxation of the canal gradually increases. If in this state the urine should become highly stimulating, as it is apt to do in gouty subjects from excess of lithic acid or lithate of ammonia, the drops retained in the urethra act as a constant source of irritation to the lining membrane; and if, as is so likely to be the case, there be neglect of the proper treatment, and an overindulgence in the use of wine or ardent spirits, inflammation becomes established, and this gradually leads to the dilatation of the canal which has been described. This change is *essentially* of very slow formation, but a remarkable case, and one not easy to account for, in which it occurred comparatively with rapidity, once fell under my notice.

A man, aged forty years, addicted to the occasional use in excess of ardent spirits, married, and having a family, was suddenly seized with painful erections at night, which were fol-

lowed, in many instances, by seminal emission. This condition lasted for a fortnight, at the end of which time he perceived a slight puriform discharge from the urethra, accompanied by pain and difficulty in making water. The discharge disappeared in a few days, but the pain and difficulty in micturition continued, and gradually increased. After the lapse of about two months a new and remarkable feature attracted the patient's attention. He observed that, for some time after each evacuation of the bladder, when he walked about, a considerable quantity of urine invariably dribbled away so as to keep his clothes wet, and that on pressing the perineum with his fingers, in one spot, a small stream was ejected. In this state he applied for surgical relief.

There was no discharge from the urethra, nor any evidence whatsoever of gonorrhœal inflammation, and he asserted in the most positive manner that he had not contracted that disease for many years. On examining the perineum, I found that at one spot, just at the root of the scrotum, and a little to the right of the mesial line, slight pressure caused the expulsion of a considerable jet of urine; no decided bulging of the canal, however, could be detected, even when the patient made the effort to evacuate the bladder. Wishing to ascertain if there were any obstruction in the canal, I introduced an instrument, but a full-sized silver catheter passed with ease.

It is difficult to account for the phenomenon presented in this case, considering the comparative rapidity with which it was developed, and the peculiar symptoms which preceded it. There was obviously no stricture, so that the dilatation was not, primarily at least, mechanical. If there had been any laceration of the urethra during the violent erections which marked the commencement of the case, hemorrhage more or less should have been observed, still, such was not the case; and then it may be asked, what was the cause of the erections? It was evidently not gonorrhœa. Did the cause of this peculiar affection lie in any particular state of the urine? At the time the patient applied to me, this secretion was normal. Was the origin of the case ulceration of the lining membrane, leading to the formation of a sac which held a direct communication with the canal? There was not any evidence of such a condition, which is so very rare, where no mechanical obstruction exists in the canal; there was no perceptible bulging of the urethra, no tenderness on pressure over the dilated spot, no puriform discharge, nor other sign of a urinary sac formed by ulceration of the lining membrane. It is clear that the

dilatation of the urethra resulted from partial atony of its elastic and contractile tissues; but what was the cause of so comparatively sudden a change in this case cannot be satisfactorily explained.

Now, as in the case of the bladder, so in the urethra; a state of increased contractility, a condition exactly the converse of the last, will give rise to all the appearance of genuine stricture. This leads materially to the consideration of the muscularity of the urethra; but it would be foreign to our purpose to enter here at any length into a discussion on so vexed a question. Every one who has read anything of the physiology and pathology of the urethra is aware that many years ago John Hunter advanced the doctrine that it is unequivocally muscular; his opinion, however, was altogether inferential, being based on the phenomena presented by the normal and abnormal actions of the canal. Sir Everard Home warmly embraced similar views, which were shortly afterwards corroborated by the researches of the distinguished microscopist, Baüer. At this time, however, the microscope, as an optical instrument, was imperfect; hence Baüer's description of those fibres, which were set down to be muscular, was inaccurate. But within the last few years, a period marked with such rapid progress in microscopic research, demonstrative proof that the urethra is furnished with minute involuntary muscular fibres seems for the first time to have been clearly afforded; and to Kölliker and Hancock, particularly the latter, is undoubtedly due the credit of having pointed out satisfactorily most that is now known of the exact situation and distribution of these fibres.

Unfortunately, however, for the settlement of the disputed question, as to whether the urethra be muscular or not, the arguments relied on as proving its muscularity can be explained on different suppositions; hence, many eminent authorities have denied the existence of an organic muscular tissue belonging to that canal, and have referred certain peculiar actions manifested by it variously to mere elasticity, to "vital contractility," to turgescence of the lining membrane, and to the action of the erectile tissue. There is no doubt that the phenomena presented by the urethra, as they are observed in its normal and abnormal states, are more *satisfactorily* explained on the supposition that the canal is muscular, and this view is supported by analogy; but the decision of the point can only be positively settled by appeal to the microscope; no other means can afford conclusive proof (since it is demonstrative) of the presence of muscular fibres if they exist. And now comes the

question, considering the optical power and perfection of the instruments in use at the present day; and the distinguished authorities, not alone Kölliker and Hancock, but Quekett and others who have equally devoted themselves to microscopic research, and have borne testimony to the existence of the involuntary muscular fibres alluded to—can there be any doubt or source of deception regarding them? But whether we view the doctrine that the urethra is muscular as a reality or not, is immaterial in a practical light, since it cannot be denied that the canal possesses a marked contractile property which is the cause of many remarkable phenomena it presents under certain conditions. It is this contractility of the urethra, exalted to a high pitch by peculiar states of the nervous system, as well as by the influence of weather and climate, which, most of any condition yet mentioned, assumes the characters of true stricture, and is accordingly a source of great deception. Persons of a highly nervous, irritable habit, whose digestive functions have been impaired for many years, are apt uniformly to void their urine in a narrow stream, though no trace of stricture be present, nor any of the ordinary causes of the disease having ever been in operation; and on occasions when these individuals are subjected to excessive mental anxiety, there is often so much difficulty of micturition as to amount to retention of urine.

When matters go so far as this, spasm of the voluntary muscles always co-exists; but in the slighter, which are the ordinary cases, the contraction of the canal is altogether independent of the action of the compressores urethræ muscles, and is referrible entirely to that tissue which, as already observed, is, according to microscopic demonstration, composed of minute involuntary muscular fibres. Most frequently the contraction of this tissue is uniform, but sometimes it would appear to be partial, by which a sort of slight annular constriction is formed capable even of offering a feeble resistance to a bougie of moderate size, and this may be situated in any part of the canal from the orifice to the prostate gland. It is easy to conceive how such a state may be confounded with incipient organic stricture. In either case the stream of urine is necessarily reduced in size, and some force is required in order to expel it. We see, therefore, that two exactly opposite states of the bladder and of the urethra—one of augmented and diminished tonic power—will lead to the manifestation of the rational symptoms of stricture. In all such cases we can arrive at a negative diagnosis by introducing an instrument, when, if it pass without meeting any decided obstacle, we must con-

clude that stricture is absent. But, as has been intimated at the commencement of these observations, a decided obstruction to the passage of an instrument may be experienced in the urethra, and still no stricture, properly so called, exist; this is, indeed, a source of strong deception, for here we have the *sensible* sign of stricture, and when, as frequently occurs, the rational symptoms co-exist, the similitude of the case to the *real* disease is complete. Such cases demand the utmost circumspection, without which serious mischief may be done to the urethra by the use of instruments, and where great care be not taken, even the most experienced surgeon may be altogether misled. Undoubtedly the most common impediment to the introduction of an instrument, apart from stricture, is enlargement of the lacunæ of the urethra; in this way pouches are formed, into which the point of an instrument of small size, particularly a straight one, readily enters, and its onward course is intercepted. This condition is most usually met with where stricture is present, but it is occasionally found as the result of long-continued irritation of the mucous membrane where not the slightest reduction in its caliber exists. The lacunæ, as it is well known to anatomists, lie on both the upper and lower aspects of the urethra, but particularly on the lower; the "lacuna magna," however, occupies the upper, about an inch or an inch and a half from the external orifice, and this is the pouch into which the point of a small instrument is so apt to slip.

Another impediment to the passage of an instrument along the urethra is an exaggerated condition of the natural rugæ of the mucous membrane; these frequently become enlarged and thickened in such a manner that the point of a moderate sized instrument cannot fail to hitch against them, though they may be unable to produce any sensible obstruction to the escape of the urine. Sometimes, however, the contractile fibres of the urethra are at the same time thrown into undue action; the rugæ, therefore, become closely approximated, and the folds are rendered more prominent; accordingly, the caliber of the canal is somewhat diminished, and the stream consequently reduced in proportion; the obstruction to the instrument is also increased, so that the case bears the strongest resemblance to stricture; and the deception is the greater, since it is in the most common localities of the latter disease—the bulb and membranous parts—that the rugæ chiefly abound.

But it is towards the neck of the bladder that obstacles are apt to be encountered, which are really mere exaggerations of the natural state of the parts, or only trifling deviations from

it. In the prostatic portion of the urethra a complete stoppage may be given to an instrument, though there be no contraction whatsoever, nor any enlargement of the gland. The prostatic and ejaculatory ducts are sometimes considerably dilated, the sinuses on each side of the verumontanum become deepened very often, and in other cases the septa intervening between the dilated mouths of the prostatic ducts form bands which cross each other in various directions, constituting a complete network; in all these conditions it is evident how the point of an instrument may hitch or become entangled. Again, the "uvula vesicæ" sometimes becomes enlarged and elevated, and projects into the internal meatus of the urethra in such a way as to offer direct opposition to the introduction of an instrument into the bladder. Very frequently a band of mucous membrane (quite distinct from what has been termed the "bar," at the neck of the bladder) becomes stretched transversely across the inner opening of the canal, which both obstructs the entrance of an instrument into the bladder, and interferes with the escape of the urine from it; this condition is often met with in persons who have never had gonorrhea, and usually in those who possess a relaxed and flabby state of the entire canal, such as has been already described.

The foregoing are most of the deceptive impediments experienced in exploring the urethra; and it is quite obvious how easily the surgeon may be drawn into a mistake which may prove, if not absolutely productive of serious consequences, at least of much perplexity and annoyance, not only to himself, but to the patient. In all the states of the urethra detailed the diagnosis rests on—whether it be possible to pass a full-sized instrument or not; in the case of enlarged lacunæ, of thickened rugæ, of prominent "uvula vesicæ," of the transverse fold at the internal orifice of the canal, and of the network which has been described as being occasionally situated in the prostatic part, a large instrument will pass readily, while a small one necessarily hitches, or gets entangled; hence it becomes of great importance always to use a full-sized instrument in exploring the urethra, with a view to the discovery of stricture. When the impediment lies anterior to the bulb a straight instrument will pass with greatest ease; but when it lies far back in the urethra, or at the neck of the bladder, a curved one must be employed.

It too frequently occurs, when a patient applies to a surgeon, complaining of difficulty in micturating, for the latter to prejudge the case immediately, and to set it down as stricture; this leads him to explore the urethra with a small instrument,

in consequence of which he is very apt to encounter some of the deceptive obstacles already enumerated; he, therefore, becomes confirmed in his previous belief, and instead of resorting to a large instrument, which would, in all probability, readily pass, and thus reveal the true nature of the case, he descends in the scale of sizes, whereby not only is his chance of succeeding diminished, but the lining membrane of the canal seldom escapes laceration. We see, then, how numerous are the sources of deception connected with the diagnosis of stricture of the urethra. In some instances the rational symptoms of the disease are exhibited *per se*, in others the sensible sign; while in many both are combined; there may be difficulty, pain, and frequency in passing water, and the existence of an obstacle to the introduction of an instrument, without stricture, in the correct sense, being present.

But, as in the case of most other diseases, the difficulty and trouble involved in the diagnosis of stricture of the urethra is not confined to the distinguishing it from what, in many instances, may be termed spurious forms of the disease; it embraces the recognition of the different species of true stricture, and the discriminating these one from the other. This leads to the classification of strictures; but since to enter here on so extensive a field would be outstripping the limits assigned to the present communication, we shall pass on to the second part of our subject, viz., the complications of stricture of the urethra. Here, again, what a wide scope is afforded for practical study.

The most common complication attendant on organic stricture is spasm, constituting the "mixed stricture" of authors; indeed, there are few cases with which more or less spasm is not occasionally associated, and there is no occurrence more annoying to the patient and perplexing to the surgeon than this, since it varies so much, on the one hand, the capability of passing urine; on the other, that of introducing an instrument. The spasm in these cases is undoubtedly of two kinds: one resulting from the action of that tissue composed of the so-called involuntary muscular fibres; the other from the contraction of the voluntary or Wilson's muscles. The latter is the principal and most important kind of spasm which complicates stricture, for it is impossible that muscular fibres, so minute as to require for their demonstration a magnifying medium of the highest power, can contract so as to produce a forcible closure of the canal; hence Sir Benjamin Brodie's statement, that spasm can alone occur at the membranous part of the urethra, though not exactly correct, according to recent discovery, is in a practical

sense, perhaps, perfectly true. In almost all cases of organic stricture, spasm is apt to be excited by exposure to cold, wet, or much fatigue, or by too free an indulgence in the pleasures of the table, particularly in the use of wine or spirits, and very frequently it is caused by rudeness in the introduction of instruments. In some instances, however, the proneness to spasm is so strong that the most trivial causes will induce it, and sometimes it would appear to occur without any assignable cause, or to be produced entirely by mental influence. The latter is so powerful a cause of spasm of the compressores urethræ muscles, that there are some well authenticated cases on record in which retention of urine has occurred from it alone, there being no organic stricture, nor any appreciable lesion of the canal. But the extreme disposition to spasm which marks some cases of stricture would appear to arise from one of two causes,—irritability of the system generally, and irritability of the urethra itself. The first condition occurs in persons of a highly nervous temperament, and particularly in those who have led a luxurious or dissipated life, and very frequently it is connected with and seems to depend on dyspepsia and derangement of the hepatic function. The second condition—local irritability—is the great source of spasm, affecting organic stricture. It consists in a high degree of sensibility—"*morbid sensibility*"—which is a state *minus* inflammation, and this involves not only the stricture itself, but the urethra in its vicinity, to a varying extent; sometimes it appears to occupy the entire canal, and even to extend to the neck of the bladder, leading to very distressing symptoms, which may simulate those of vesical calculus. This is what many writers have denominated "irritable urethra." In such cases there are always some scalding and frequency in passing water, and in general slight puriform discharge, together with a remarkable fluctuation in the ease with which micturition is accomplished, all which symptoms are greatly aggravated by taking stimulants, by sexual indulgence, and over-exercise. When the stricture is incipient or but slight, an instrument of considerable size will pass; and more readily always than a small one; but as it glides over the diseased spot, particularly if that be situated in the membranous part of the canal, smart pain is experienced. This irritable state of the urethra appears, in many instances, to be connected with irritability of the system at large, such as has been already alluded to; very often, however, it is *purely* local, and may be the result of a stricture being neglected or mismanaged, or it may be the effect of one or more attacks of gonorrhœa during the formation of a stricture. In not a

few instances the disease obviously depends on gout; and even where it acknowledges another and more efficient cause, the coexistence of a gouty diathesis will not fail to aggravate the symptoms.

When the urine is rendered highly stimulating from excess of lithic acid, and the lithates—a circumstance so apt to occur in gouty subjects—all the urinary annoyance is increased fourfold; the scalding and frequency in micturition are augmented, and the spasmodic action of the muscular fibres may become so strong as to close the canal completely. Occasionally, though no doubt very rarely, where there is much spasm, and consequently more than usual slowness and difficulty in emptying the bladder, the urine becomes filtered, as it were, and deposits a slight calcareous crust of lithate of ammonia within or behind the stricture. When such an event occurs, the urinary distress assumes often a very urgent character.

A gentleman was recently under my care for stricture, coupled with irritable urethra; he possessed a well marked gouty disposition, and suffered to a great extent from dyspeptic symptoms. Whenever he attempted to depart in the slightest degree from his ordinary food or drink, his urine became loaded with lithic acid or its salts, and this never failed to add to the local annoyance from which he suffered. After he had been under treatment for the stricture for a short time, and had been considerably relieved, he began to complain, without any apparent cause, of a return of his former symptoms, which gradually increased, and amounted to such a height, that it was with great difficulty and extreme pain he could empty the bladder. I immediately suspended the use of the instrument, but anodynes, and the ordinary treatment for inflammation of the urethra, were unproductive of the slightest benefit. At length, in a paroxysm, he expelled from the urethra a small cake of lithate of ammonia, to the complete relief of all his pain and distress.

The two kinds of spasm which have been described constantly occur separately, but often they are combined, the entire canal being in a state of undue contraction, in such cases the difficulty of micturition is considerable, and the surgeon feels, almost immediately upon introducing a bougie, long before it can arrive at the stricture or membranous part of the urethra, a certain degree of resistance or slight grasping of the instrument. This state varies remarkably: one day the individual is able to void his urine in a tolerably full stream, and a bougie will pass with facility; the next day,

owing, perhaps to wet, coldness of weather, or to some derangement of health, the urethra becomes universally contracted, and the instrument in ordinary use is grasped before it has traversed hardly one inch of the canal.

Another complication with stricture is spermatorrhœa, and this proves a source not only of mental anxiety to the patient, but leads often to extreme physical debility. Frequent nocturnal emissions may constitute a symptom of stricture under any circumstances, but most usually are associated with the irritable state of the urethra just described; the "morbid sensibility" often extending into the prostatic part of the canal, and thus proving a direct cause of irritation to the seminal ducts. It must be remembered, however, that the coexistence of spermatorrhœa with stricture does not necessarily imply the relation between them of cause and effect; the former may have been antecedent to the formation of the latter, being the result of various circumstances. In such cases the cure of the stricture is, of course, not followed by the cessation of the seminal emissions; but where the spermatorrhœa has occurred subsequently to the first symptoms of stricture, and seems to depend on it, or on "morbid sensibility" of the canal in connexion with it, obviously nothing short of the complete removal of these states can lead to a cure of the spermatorrhœa.

A third complication with organic stricture, and one which is particularly worthy of note, is pain and swelling of the prostate gland. Care must be taken not to confound this sympathetic affection with that chronic enlargement of the organ which occurs in advanced life, and which has no dependence whatsoever on stricture; the former disappears when its cause —the stricture—has been removed. Sometimes, though rarely, the sympathetic swelling of the prostate passes into acute inflammation, and may even suppurate. Sir Benjamin Brodie makes two very important practical observations on the sympathetic affection under consideration. He says:—

"1st. Where a simple chronic enlargement of the prostate gland supervenes on stricture of the urethra, the latter usually becomes less liable to spasm, and is more easily dilated, and altogether more tractable than it was before: a change in its condition which is easily explained; as the pressure of the urine against the stricture, when the patient strains in making water, is a constant source of irritation, which is, in great measure, removed as soon as a new impediment to the flow of the urine between the stricture and the bladder is established, by the tumour of the prostate.

"2nd. But where the disease of the prostate goes beyond

a mere enlargement, and suppuration has taken place in its substance, an opposite effect is produced on the stricture; the abscess itself becoming a source of irritation, rendering the stricture more sensitive, and more liable to spasm than it would have been otherwise."

There are many other morbid states found in connexion with stricture of the urethra, which may be viewed as complications, but they come more conveniently, perhaps, under the head of "the effects" of this disease, such as irritable bladder, swelling of the testis and epididymis, hydrocele, dilatation of the urethra, &c., &c.; but to enter upon the consideration of these would be to enlarge far too much the extent of the present communication. By it the principal object intended has been to invest with importance the differential diagnosis of stricture, to point out the various sources of error by which the surgeon may be misled; and surely, though more serious mistakes can be made, there is none more *humiliating* than to keep a patient for months under treatment for stricture, aggravating his case, when the occasional introduction of a large instrument, and a course of tonic medicines and sea-bathing, would effectually remove all the symptoms.

Art. VI.—*Observations on Thoracic Aneurism: with Cases.* By John Popham, M. D., Physician to the Cork North Infirmary.

The diagnosis and treatment of aneurisms form a subject of deep interest, but of varied results, to the physician and the surgeon. The cases which usually fall within the province of the physician, comprising those internal changes which the arterial trunk itself undergoes, are viewed by him not without despondence, as he has to deplore that they are yet in a great measure irremediable by his skill; while the surgeon can turn with well-merited triumph to the success with which one great arterial branch after another has been removed from the catalogue of hopeless diseases. It is not, however, so long ago that many cases of external aneurism were thought as hopeless as those of internal are now regarded—a circumstance which is of itself an answer to those who urge the inutility of continued inquiries. By the progress of observation, the pathology and discovery of internal aneurisms are becoming every day more sure; the line of distinction between these and other tumours is becoming more broadly marked; and a hope may be justly entertained that when the symptoms and signs by more perfect

means of inquiry become so clearly defined as to warrant an early diagnosis, curative measures can be adopted at an earlier period of the case, and consequently with a greater prospect of a successful result.

One of the most likely means to effectuate this consummation is to place on record such examples of the disease as come within the cognizance of each observer. Unfortunately, aneurismal cases until the last half-century have been imperfectly detailed, and consequently the conclusions of the older writers must be received with some hesitation. It is therefore desirable that the few opportunities which each practical physician possesses of witnessing this disease should be turned to account; and with this conviction, I shall give as a contribution to the general mass of materials the particulars of some cases occupying different parts of the thoracic aorta.

Case I.—*Spheroidal Dilatation of the Ascending Aorta. Single Impulse and Sound. Absence of Pain. Dyspnœa the prominent symptom. Death by rupture into the Pericardium.*

Mr. M., a person of a lymphatic temperament, aged about 30, applied to me for advice respecting an abnormal palpitation, which arose, he feared, from some displacement of his heart. On examination no prominent tumour could be seen; but a distinct pulsation was evident both to sight and touch at the third intercostal space of the right side, extending nearly two inches from the sternal margin. He had observed it some months before, and could not attribute it to any cause.

From the beginning of his illness he never suffered anything like pain, but constantly a feeling of impending dissolution during fits of aggravated dyspnœa. At these periods the pulsation in the right side became violent, and the respiration laborious and gasping; in the intervals all was calm, the breathing regular, and the turgescence of the face and distention of the cervical veins, before very remarkable, in a great measure subsided. These paroxyms were liable to be induced by sudden agitation of mind, and chiefly occurred about two or three o'clock in the morning, generally succeeding a frightful dream, or an uneasy decubitus on the back.

On examining him by percussion, dulness existed over the seat of the pulsation, and across to the third and fourth cartilages of the left side; there was also a slight deficiency of clearness over the upper part of the sternum; the sound was normal in the remainder of the chest.

The heart was felt beating below the left mamma with augmented impulse; both its sounds were audible, but the

first most so, over the greater part of the left side of the thorax anteriorly. On moving the stethoscope across the sternum towards the right, the cardiac sounds became gradually less clear, until the neighbourhood of the pulsation was reached, over which a single sound, synchronous with, but considerably louder than, the ventricular systole, was heard. It gave to the ear rather a forcible impulsion than a clear sound. This single sound was audible along the spine and at the scrobiculus cordis, as far as the umbilicus; the impulse was synchronous with the sound, and, like it, was single. At times of great excitement a slight murmur could be distinguished, but not during a calm of the symptoms; no thrill could be felt over any of the large vessels or the tumour itself. The pulse, during the intervals, was 96, and of the same force in both arms.

The respiration was audible all over the chest, but more feeble than is usually perceived; at the right side it was less distinct. He had some, but not much, cough, and occasionally slightly tinged expectoration; the inspiratory murmur was rather harsh and prolonged, but neither crepitus nor marked bronchial rales existed sufficient to account for the sudden fits of suffocation.

There was absence of most of the symptoms indicating pressure upon important organs; no dysphagia was at any time complained of, neither had he stridor at any period of the disease. There was no emaciation or œdema; the digestive functions were regularly performed.

With respect to the diagnosis, there seemed little doubt of the existence of aneurism: that the ascending portion was the part engaged, was likely from the situation of the tumour.

To relieve the dyspnœa, he was bled from the arm, with considerable mitigation of his oppression, and leeched over the tumour; sedatives, intended to allay irritability, and not to check suddenly the power of the heart, were employed, and the pulsation became so much reduced that he supposed himself almost cured, and became impatient to resume his business. Notwithstanding my urgent protest, he persisted in returning to his ordinary duties, but after a day of much mental and bodily fatigue, a fit of dyspnœa rapidly came on in the night. Before aid could be procured his breathing became stertorous, and he sprang up suddenly in the bed, and instantly expired.

The dissection was obtained with difficulty, and only on condition of one of the family being present. The abdomen was greatly distended with air; on removing the sternum the pericardium was seen, of a purple colour, much distended, and reaching within a short distance of the second costal cartilages;

it occupied nearly the whole of the substernal region, and encroached on the right side; it contained large clots, not separated into serum and crassamentum, amounting to twenty-four ounces. The ascending aorta was found dilated, about the size and shape of a moderate orange; the transition of the artery into the dilatation being more gradual at the cardiac side than at the other. The aortic valves were not diseased, and perfectly closed the aortic ostium; the dilatation began about a quarter of an inch beyond them, and terminated just below that part of the arch where the great vessels are given off; at this place the artery was constricted, but immediately recovered its natural dimensions. The coats of the dilated vessel were unbroken except at the part which had given way, a transverse laceration of an inch and a quarter having occurred near the root of the aorta. A part of this fissure for about half an inch belonged to a lesion of some standing; the walls had become attenuated, and a layer of lymph had been effused over the part upon the internal membrane; the walls of the rest of the lacerated part were normal, and had evidently been torn by the sudden gush of the blood. The pouch was empty and smooth, no attempt having been made to deposit fibrine within it, and very little evidence of diseased structure existed but what has been mentioned. The heart was large and flabby, all the cavities being dilated,—the left ventricle especially. The right lung was congested, and pleuritic adhesions existed in some parts, a little serum was found in both cavities; no tubercle was discovered.

The case just cited is an example of simple dilatation of the ascending aorta, all the coats being equally dilated; this form is by some writers termed "aneurysma verum totale." Hasse doubts the possibility of the several membranes undergoing any considerable dilatation without rupture, and states that apparent cases of this nature, where the two inner membranes are considered to exist, are in reality nothing else than the fissured and diseased remains of these coats, cemented together by a thin semitransparent false membrane, which are mistaken for them. As far as ocular examination is trustworthy, such was not the case here, the inner false membrane being limited to the part of the vessel which had suffered emollition.

Dilatations of this part of the vessel afford a melancholy prognosis, as the tendency is for all the tunics to give way together, though very rarely a dissecting aneurism is formed. Hence, as Corvisart has observed, these cases are to be classed among the most suddenly and unexpectedly fatal of all forms of aneurism. The practitioner, when he diagnoses this lesion,

must be prepared for such an occurrence, and should prepare the patient's friends. The difference in extensibility between the pericardial covering of the vessel, while within the pericardium, and the areolar tissue in other situations, favours *total* rupture in the former case. That the sudden bound upwards of the patient, similar to what occurs when a person is shot through the heart, was coincident with the laceration of the vessel, is probable, and the hemorrhage in such cases is usually single and mortal, though it may be possible for life to continue for some definite period after effusion from a small orifice. That the cause of death is altogether due to the compression of the heart, appears unlikely when we find serous effusions of equal amount compatible with life. The sudden shock to the system, witnessed in all hemorrhages, and the stoppage of the arterial supply to the brain, must also be taken into account.

There are a few particulars in the case which I shall briefly notice:—First, *absence of pain.* At no period did the patient complain of any positive pain, a symptom so remarkable in other examples. It is not easy to speculate whether this was casual or from the detour of the vessel towards the right side, so as to be out of reach of several parts which bear pressure badly. There was no costal or sternal adhesion or erosion; and so far the case affords a negative support to Dr. Law's theory of the peculiar terebrating pain of aneurism being due to an ulcerative process going forward in bone. This fact confirms M. Gendrin's opinion, that in dilatations a feeling of malaise rather than pain is found. It affords an illustration that an artery can undergo great dilatation without giving notice of the change by pain, the great witness of disease, and that this symptom is more justly due to the relations of the vessel with neighbouring organs than to the stretching of the coats themselves. External pressure, however, was borne with difficulty, both from the tenderness of the cutaneous nerves and the distress caused by forcible compression of the vessel.

Secondly, *absence of the chief pressure signs.* There was no dysphagia, owing to the deviation of the vessel forwards and to the right side; no alteration of the voice, from the tumour not extending to the larynx or trachea; no numbness from pressure on the great nervous plexuses of the neck or arm; neither were any of the large arteries obstructed; the venous congestion, from pressure of the tumour on the descending cava, was, in its effect, only occasionally obvious, the swelling of the neck not being constant.

Thirdly, *the great symptom of the case was intermitting dyspnœa.* I have seldom seen a case which presented such

changes between extreme oppression and absolute ease, I may almost say, enjoyment of life. I am inclined to think that the dyspnœa proceeded rather from pressure on the bloodvessels than on the air-tubes, from the position of the enlarged aorta with respect to the pulmonary artery and its right branch, and the partial overlapping of the superior vena cava by the divergence of the aneurism to the right. That the right bronchus was slightly compressed was probable from the feebler respiration in the right lung; when both causes are combined, a very slight augmentation to the ordinary force of the circulation produces alarming effects. One of the most remarkable symptoms in aneurism is the want of proportion between the slightness of a disturbing cause and the magnitude of the disturbance produced.

Lastly, the *singleness of both sound and impulse* in the tumour is worthy of notice. The sound heard over the aneurism was a strong impulsive sound, like Gendrin's *bruit de choc*, such as is often heard in abdominal aneurisms. This case, then, illustrates the opinion of that physician, viz., "that true aneurism, or that by dilatation of all its coats, differs from the spurious form, by being *always* attended by a single impulse and sound, whereas the false variety has both a double sound and impulse." That this theory is not without exception is evident from cases of dilatation on record, where a double sound has been heard, and in abdominal aneurisms of a sacculated character. Most observers agree in opinion that the latter afford but a single sound and impulse. Until a large number of cases of dilatation shall be carefully recorded, we can only conjecture whether a single or double sound is their normal state, and what casual element may determine a variation from it. In the present case there was a perfect condition of the aortic valves, though interposed between a dilated ventricle and a dilated aorta, and, therefore, valvular inadequacy did not exist to complicate the symptoms; hence, as *bruit de soufflet* was audible at times in the tumour, the opinion entertained by some writers, that this *murmur* in aneurism always depends on the state of the valves, is scarcely tenable. There was no second *murmur* in the case, as there was no fibrine in the sac or roughness of its lining membrane. With respect to the absence of the second sound over the tumour, it may be asked, does it proceed from the arterial walls not contracting with sufficient force to send the refluent current strongly against the closed aortic valves? Various circumstances concurred to weaken the arterial systole: viz., the increased contents of the vessel, the loss of elasticity, the enfeebled contractile power, the want of harmony between the

contraction of the wider and narrower parts, &c. That it may be heard in the left side can be explained by the sound in the pulmonary artery remaining unchanged. In sacculated aneurisms the second *sound* is explained by M. Gendrin on the principle that a sound feebler than the first is produced by a second jet of blood thrown into the sac by the arterial systole. As the first impulse of the sac is due to the ventricular systole, so the second *impulse* arises from a second smaller wave sent into the sac by the arterial contraction which immediately follows that of the ventricle. This meets the retreating sac, and propels it again forward. This explanation is also given by Dr. Robert Lyons. In cases of pure dilatation, where no diverticulum from the side of the vessel exists, the dilated portion causes no second impulse, as it acts simultaneously, or nearly so, with the rest of the artery.

The contracted outlet of the aneurism, which is more frequently seen in false aneurisms than in true, seems an effort of nature to regain the systolic power of the vessel. This contraction of the mouth of the artery emerging from the sac is somewhat analogous to the contraction that takes place in an artery when divided.

The two following cases are examples of false aneurism arising from that part of the arch where the ascending joins the transverse portion, and are remarkable for assuming the features of aneurism of the innominatal artery.

Case II.—*Sacciform Aneurism of the Right Superior and Anterior Surface of the Arch of the Aorta. Visible Tumour at the Right Side of the Neck. Pressure symptoms confined to the Right Side.*

Thomas Sullivan, aged 43, a sailor, was admitted into the North Infirmary, July 26, 1846, with a visible pulsating swelling in the neck. He stated that it was of about two months duration. On examination a tumour was observed to the right of the sternum, occupying the part corresponding to the cartilages of the first and second ribs with the two first intercostal spaces; it also filled up the supra-sternal fossa to the level of the sterno-mastoid insertion, and passed beneath the right clavicle, which it dislocated, into the neck, where its size reached that of a hen-egg. The cervical veins, especially of the *right* side, were gorged and livid, as were also the sternal veins at the same side. He complained greatly of dysphagia, which he referred to the sternal notch, and felt on swallowing solids; he had no vomiting. His face was œdematous, and his *right* arm; numbness, and occasionally formication, were felt in that arm,

but not in the other. The pulse was equally strong in both wrists, and ranged from 84 to 96; it was regular. The heart's action was normal, and not heard much beyond the præcordial limits. The impulse of the tumour was considerable, until near the close of his life, when it lessened as the swelling enlarged; both sounds were heard in it with greater intensity than in the cardiac region, but no murmur. Percussion gave a dull sound over the upper third of the sternum and the three superior costal cartilages of the right side. Respiration was inaudible at the *right* infra-clavicular region, puerile at left; it was decidedly more feeble over the *right* than the left lung; some stridor took place during the inspiratory effort; no aphonia; decubitus was wholly on the left side; he found it impossible to lie on the back or right side, and had sometimes orthopnœa. In his waking moments he suffered considerable dyspnœa, but his breathing was easy during sleep. He never felt severe pain, but stitches in the right shoulder and arm, in the back of the neck, and along the sternum. He died August 16.

On examination, the aorta was found somewhat dilated, and spots of atheroma and earthy concretions on its inner membrane. A false aneurism proceeded from the summit of the arch, a little to the right of the brachio-cephalic artery; it contained the usual deposit of fibrine. It had eroded the posterior surface of the upper third of the sternum, and completely destroyed portions of the two right upper ribs. The apex of the right lung was pushed back, and the right bronchus was compressed; no rupture had taken place. The large arteries were not involved in the aneurism. The high situation of the tumour in the neck in the above case was likely to mislead the observer into the belief that this was an aneurism of the innominata, and not of the great arterial trunk. As it resembled the case I shall now adduce in this feature, I shall reserve any observations on the diagnostic marks of these affections till I have detailed the next case.

Case III.—*Aneurism at first confined to the right superior portion of the Arch of the Aorta. Pressure signs and Tumour at the right side of the neck, simulating Innominatal Aneurism. Partial cure. Subsequent extension of the disease to the middle and left of the Arch. Transition of pressure signs to the left*[a].

Catherine Preston, meretrix, aged 25, was admitted to the Cork Union Hospital, January 1st, 1853, with a pulsating tu-

[a] The above case and the pathological specimen were presented to the Cork Medical Society during the last session.

mour in the right side of the neck. She was rather stout, and had a florid appearance. She stated that five months before admission she perceived a small kernel commencing at a part which corresponds to the interval between the sternal and clavicular insertions of the right sterno-mastoid muscle. A week before she came to hospital she fell out of a window, while intoxicated, since which the swelling has greatly increased. She never had syphilis, or took mercury. Some absorbent glands are enlarged at the left side of the neck, giving it a tumid appearance.

On examination, a pulsating tumour, about the size of an egg, extended an inch and half above the sternal extremity of the right clavicle, pushing forwards its articulation, and partially filling the sternal fossa. Its long diameter was transverse; it was tense and painful to the touch; the colour of the skin was natural.

She complained very much of darting pains radiating from the tumour in various directions, *but all confined to the right side.* Thus the pain passed along the mastoid muscle to the ear, perhaps from irritation of the spinal accessory nerve; it was felt in the right temple, the right mamma, beneath the right scapula, and descending along the shoulder and arm of the same side; *the left side was totally unaffected.* She could not lift the right arm without the help of the other, and both the animal heat and sensation were less in the right than in the left arm. She could not lie on the right side without pain. The power of deglutition was affected; solids, she complained, stuck in her throat, requiring a second or third effort to swallow them; liquids "went against her breath," and were partially regurgitated; constant nausea existed, but no vomiting. Her voice was whispering at times; at other times raucous, but not stridulous; speaking always distressed her, as she had to stop frequently for breath.

Her nervous system was very excitable, the least noise startling her; continual tremor of the muscles was seen, especially of the wrist tendons. Her sleep was disturbed, and her habits restless and fidgetty. Her tongue was clean; bowels always confined; catamenial functions regular. The pulse was weaker in the right arm than in the left; it reached 120, and was fluttering, but regular. The veins of *both* sides of the neck were swollen and purple.

On percussion of the sternum, slight dulness was elicited over its upper fourth; scarcely any difference existed between the right and left infra-clavicular regions, but neither seemed perfectly clear; the sternal half of the right clavicle sounded much duller than the left; the rest of the chest was natural.

The action of the heart was rapid, its rhythm normal; no murmur existed. The distinctness of the cardiac sounds lessened as the area from their centre enlarged till the tumour was approached, when a double sound became clearly audible and louder than the heart's sounds. The strong impulsion of the tumour rendered it difficult to say whether a murmur existed in the right carotid artery, but a bellows murmur, systolic in time, was heard in the left. Both sounds continued to be heard over the cervical vertebræ, but not so low as the scapulæ; no thrill was felt in the tumour. A strong heaving diastolic impulse was communicated both to the hand and ear synchronous with the first sound, and a second feeble stroke could be distinguished, especially when the circulation became excited. The respiratory murmur was evidently more feeble under the *right* clavicle than the left: it was clear over the rest of the thorax. The loudest pectoriloquy I ever heard, amounting to a shrill trumpet tone, was audible over the larynx and upper third of sternum and posteriorly in the interscapular region.

Such were the symptoms and physical signs presented by this case, and it is necessary to call attention to the fact, that they indicated a tumour of an aneurismal character, causing pressure upon the large vessels and nerves exclusively of the *right* side. Was it, therefore, an aneurism of the arteria innominata or of the arch of the aorta? The former supposition seemed the more probable from the existence of most of the marks considered to be pathognomonic of that legion.

Among the writers who have discussed the subject in these countries, the most recent is Dr. Holland, who has in a valuable communication, published in the thirteenth volume of this Journal, deduced from a large collection of cases of aneurism of the innominata the following rule :—"That the symptoms and signs of innominatal aneurism have a general tendency to occur on the right side of the body, and those of the transverse portion of the arch of the aorta on the left." The first clause of this proposition is not contested; it remains yet to be seen whether the second is sufficiently definite to be established as a law.

As surgical operations still continue to be performed with the view of curing or relieving aneurisms of the innominata, it is certainly a matter of great importance to ascertain whether such cases can be diagnosed with sufficient certainty to allow an operation to be performed. On examining many of the recorded cases where surgical operations took place, it is plain that the diagnosis was arrived at without any fixed criterion, and more by the law of the greater probability or the most likely conjecture than on reasonable principles. The natural

consequence of this uncertainty was, that in several instances operations were performed for supposed innominatal aneurism which afterwards proved to be aortic. Whatever justification there may be for an operation in the former case, none, I think, could be alleged, even by the most sanguine, for the latter. Are there, then, any cases of aortic aneurism which assume the mask of innominatal so closely as not be distinguished from them by the data generally assigned?—as, if this be true, a most serious responsibility devolves upon practitioners called to decide upon such cases to weigh long and patiently the grounds on which they base their opinion?

That many examples of aneurism of the transverse portion of the arch present enlargements and pressure signs on the left side is a fact well known; these can scarcely be confounded with aneurism of the brachio-cephalic artery, except where the latter arrives at a great size, and extends to the left clavicle, as in the interesting case of aneurism of this vessel recorded by Dr. Stokes in the fifth volume of the former series of this Journal, a case of which it is not too much to say, that it is a model of careful investigation and sagacious reasoning. But the cases which I have just given, and in which no lesion whatever of the innominatal artery was found after death, show that certain lesions of the arch present this masked form. In all the cases of the kind which have come under my observation, the part of the arch originally engaged was the upper surface of the arch between the ascending and transverse parts, and to the right of the origin of the innominata, which bordered upon the tumour, without being involved in it. The engagement of the innominata in aneurisms of the arch is, however, not of unfrequent occurrence, and necessarily perplexes the diagnosis. It may be, therefore, worth while to analyze the symptoms and signs which the preceding cases afforded, and compare them with those assigned to innominatal aneurisms by the chief authorities on the subject.

I shall quote from Dr. Holland's paper, in which nine points of difference are assigned as diagnostic elements between the two lesions. Of these we have, in the preceding cases:—

1. "A visible pulsating tumour, situated at the inner side of the supraclavicular region, commencing between the origins of the sterno-mastoid, and not from the sternal notch, the tumour appearing at an early period of the case." In the last case which I have given, this is true in every particular.

2. The arteries of the right arm, and the same side of the head, presenting a feebler pulsation than at the left; showing a deficiency in the supply of blood to that side.

3. Partial loss of sensation and motion in the right arm, from pressure on the great nerves; none on the left.

4. Partial dislocation of the sternal end of the right clavicle; none of the left.

5. Comparative feebleness of the respiratory murmur in the upper and anterior portion of the right lung, not existing in the left.

6. Venous enlargement beginning at the right side, and finally extending to the left.

Thus we find six of the elements assigned by Dr. Holland to innominatal aneurism, after a close, able, and patient examination of most of the interesting cases on record, actually met with in certain cases of aneurism of the transverse arch. The other three elements are—

7. Stridulous respiration, cough, dyspnœa, vocal changes, and dysphagia, which are rare in innominatal, frequent in transverse aneurism. I believe that not one of these symptoms is constantly absent or present in either variety. One of the most likely to be absent in innominatal aneurism, and present in aortic, is dysphagia,—and Dr. Stokes inquires whether a small aneurism of the innominata could produce it. However, in a case of aneurism of the innominata, read before the Surgical Society of Ireland, and published in the Medical Press of December 25, 1844, by Mr. Banon, and which is not included in Dr. Holland's Table, we find that dysphagia may be caused by a small aneurism of that vessel. In Dr. Stokes' case, above cited, every one of them existed. They were present in the preceding cases.

8. Abnormal arterial murmurs heard in the right carotid or subclavian, whereas in aortic aneurisms they are heard loudest in the left. It must be freely admitted that a murmur confined to the great vessels of the right side of the neck, and not apparently caused by valvular disease of the heart, or alterations in the blood, is a valuable diagnostic sign, inasmuch as it is not probable that a case purely of innominatal aneurism could affect the left carotid or subclavian, except, as Dr. Holland has suggested, the innominatal sac by its size or situation compressed the arch. Still, it must be taken with some limitation. In one-fourth of the cases of innominatal aneurism no murmur at all could be detected. In one of the cases I have given, no murmur existed in the vessels; in the other a bruit was heard in the left carotid, but the sounds of the tumour in the right carotid were so impulsive that it was not easy to determine the non-existence of a murmur. Certainly a murmur confined to the left carotid is of importance as auguring disease of the arch,

and is of more value than the singleness or duplicity of the sounds. On the latter point it is stated, that double sounds are more constant in innominatal aneurism,—a matter which requires confirmation.

9. The last element, viz., that pressure on the right carotid and subclavian diminishes or stops the pulsation of an innominatal, and not of an aortic tumour, I cannot pronounce upon from my own knowledge. In the present cases all attempts of the kind produced so much distress that they could not be satisfactorily tested.

I have thus passed in review the signs specified as likely to prove diagnostic of aneurism of the innominata, not with the desire to weaken their collective importance, but simply to show that cases of such perplexity will arise as to defy all admeasurement by existing rules.

In forming a diagnosis in such difficult cases, it is likely that every case must be judged by itself, rather than by any fixed standard of difference. Besides the elements assigned by Dr. Holland, there are one or two other circumstances which may help us to a probable opinion. One of these is, the extent and situation of dulness on percussion, the probability being, that transverse aortic aneurism causes dulness of sound lower down the sternum and right costal cartilages than innominatal. It is also probable, that a comparative feebleness of respiration in the right lung is more commonly met with in aneurism of the aorta, between its ascending and transverse portions, than in innominatal. We must not omit the argument from the greater frequency of occurrence; in a doubtful case, where an operation is thought of, the balance of the greater probability in favour of aortic aneurism, from the vastly greater proportion of cases of the latter, is not to be disregarded.

After this digression, I shall resume the sequel of the present case, which is not less interesting from the singular change which took place in her symptoms, in consequence of the extension of the disease to the left side of the arch.

She continued in hospital five months, during which time she was constantly examined by the pupils, with that interest which a disease so serious in its consequences as aneurism always inspires. The treatment consisted of small relays of leeches, anodynes,and moderate nourishment. At the end of May she suddenly left the hospital, and returned to her former habits of drunkenness and debauchery. I now lost sight of her till February, 1854, at which time she applied for admission, and I took the following note of her appearance.

February 25. The cervical tumour has disappeared, nothing remaining to mark its existence; all the pressure symptoms also have left the right side. Some prominence is perceptible in the upper third of the sternum; and a hard mass, like indurated fibrine, extends half an inch above the concave margin of that bone into the fossa; both sounds are louder than natural over the prominent part, and a heaving impulse is felt in laying the hand flat on it, while the other makes counter-pressure on the opposite part of the back; respiration clear under both clavicles.

It was plain that an attempt had been made by nature to cure the disease, which had been partially successful. The sac presenting in the neck had become blocked up with fibrine, and had fallen in, thus relieving from pressure all the parts previously obstructed. That, however, the cure was not complete, was probable from the abnormal substernal pulsation. A short time verified our surmises.

With the fondness for a roving life felt by this class, she could not remain content in hospital, though fully aware of her danger. She resumed her dissipated habits; and again entered the house in June following.

June 26. A singular change has taken place in her symptoms; all the pressure signs noticed on her first admission at the right side have passed over to the left, *leaving the right unaffected.* Every pain, in fact, before felt at the right has been, with a strange symmetrical fidelity, repeated at the left, while the right side has recovered the impunity from suffering before possessed by the left. The veins also of the left neck had become much more turgid than the opposite. In fact, the chief difference between the two sides was the disappearance of the tumour from the right side of the neck, without any corresponding development above the clavicles at the left, and the protrusion of the left superior costal cartilages. These, with their ribs and the sternum, presented a considerable *saillie*, giving a very deformed appearance to the chest. The whole gave rather a heaving impulse than a regular stroke: however, near the left sterno-clavicular articulation, which was in its turn partially luxated, a stroke like a *coup de marteau* was felt; the right clavicular articulation had receded nearly to its normal place. But little change had taken place in her other symptoms: dysphagia was, however, much less troublesome, and the general venous cervical congestion more marked, giving that tippet-shape appearance to the neck noticed by Dr. Stokes, resembling a hooded bird. Bronchial respiration was heard above the left clavicle, of a blowing character, the expira-

tion hollow and prolonged; no respiration could be heard under the left clavicle, except at its acromial angle; under the right, it was puerile; neither fremissement nor bruit could be found. A curious sensation was felt over the part of the tumour most salient, like emphysema, and a loud rubbing sound on listening with the ear. This was explained by the post-mortem appearances. Between this and the time of her death, on August 16, a year and eight months since her first admission, the symptoms of oppression rapidly increased. The tumour enlarged to the size of a cocoa-nut, while the impulse towards the end of life and the loudness of the sounds abated; stridor became distressing, and all the other symptoms exaggerated to the highest degree. Her death was gradual; she was conscious to the last.

Post-mortem Examination.—Remarkable pallor of the surface of the body; a dusky yellow over the tumour, as from a bruise. The tumour, which had assumed before death a pointed appearance over the first rib, had become quite depressed; on examining with the fingers, the emphysematous crackling was perceived. On cutting down over the part, the first rib was found eroded quite through, so that the broken ends produced a distinct rubbing sound; the crepitation to the finger very closely resembled the peritoneal frottement described by Drs. Bright, Stokes, and Corrigan, in certain cases of abdominal tumours. The tumour was found to extend from the cartilaginous junction of the two first ribs of the right side to the third rib at the left, it formed close adhesions to the upper third of the sternum, the internal surface of which was eroded; the breadth of the tumour transversely was six inches.

The aneurism began about an inch and half above the aortic valves, and was divisible into two portions—one extending to the right side and engaging the anterior and superior part of the transverse aorta as far as the origin of the innominata; the other passing to the left and occupying the lesser arch and the front and left lateral aspects of the vessel, as far as the junction with the descending portion, which was dilated. The posterior surface was sound, and also the space between the right and left great vessels, but their origins were nearly an inch distant; these vessels were not at all injured in their coats, or their cavities dilated; the left subclavian contained a fibrinous mass. The opening into the right sac lay to the right of the innominata, and about three lines before it. This sac was occupied by the most consolidated fibrine I ever perceived; the orifice of the sac was completely closed, thus partially curing the disease in this portion. The left sac was of the size of a cocoa-nut,

and contained a coagulum of condensed fibrine and blood; no rupture of the sac had occurred.

The heart was small, the left venticle dilated; the aortic valves were perfect, but some spots of atheroma had extended from the membrane of the aorta into the valve-pouches; the internal surface of the aorta was vermillion-colour, and softened. The apices of both lungs had been pushed towards their acromial angles and posteriorly; no tubercle existed in them. The trachea was adherent, and two spots of ulceration occurred in it, one about an inch, and the other an inch and a half above its bifurcation; the rings were cut through, and a very slight partition intervened between them and the sac, so that the tumour would most probably have burst into it, if life for a short time had been prolonged.

Besides the peculiarity we have noticed, of aneurism of this part of the artery, taking the characters of aneurism of the innominata, it is likely that another remarkable feature of it is that a *cure* by the spontaneous exertions of nature may be hoped for in this situation with more probability than in other parts of the vessel. A case has been given by Dr. Bellingham, in the Dublin Medical Press of December, 1845, where a spontaneous cure occurred; and I find that the same part of the vessel was engaged in both cases. It is probable that the sound state of the great vessels facilitated this result, carrying off the impetus of the blood, but more likely the extension of the disease to the middle and left part of the arch produced a diversion from the part first affected. Another matter worthy of notice is, that the pressure on the part does not always cause irreparable injury. When the transition of these signs took place to the left side, all the parts of the right which had suffered returned to their pristine state[a].

In summing up the preceding subject, I think the following conclusions may be deduced from the cases brought forward:—

That a pulsating tumour presenting at the right side of the neck, is not of necessity confined to aneurism of the innominata or carotid arteries.

That the portion of the aorta usually forming such a tumour is the supero-anterior portion of the transverse arch, before the origin of the innominatal artery.

That all the pressure signs at the right side which occur

[a] Hodgson gives some examples of the same fact, see Cases xx. and xxii.: and where the disease presenting in the same place was spontaneously cured.

in aneurism of the innominatal artery may be found to exist in this case.

That the diagnostic marks between the two varieties, as far as at present known, fail to distinguish between them with anything like pathognomonic certainty.

That in such circumstances, the operation for innominatal aneurism becomes a matter of great risk to life, the diagnosis being a matter of decision between two nearly equal probabilities.

That in cases where this part of the transverse arch is affected, a total or partial cure is not of very unfrequent occurrence.

That when the middle or left portion of the transverse arch is engaged, the pressure symptoms and signs appear on the left side.

That on the withdrawal of the cause of pressure, it is possible for the parts pressed upon to recover their normal condition.

That complete and permanent paralysis of either or both of the upper extremities is seldom or never produced by pressure on the brachial plexus, and that in partial cases, or where the supply of blood is limited by pressure on the subclavian artery, the wasting of the limb is less than may be anticipated from its long inaction.

In the two cases which follow, the sac tended towards the left side of the chest, and the signs of pressure were chiefly confined to that side.

Case IV.—*Aneurism of the transverse portion of the Arch directed towards the left side. No visible Tumour. Diagnosis from Cancer of the Lung difficult.*

Hannah Rowland, aged 30, married, was admitted into the North Infirmary, December 21, 1852, suffering from cough and oppression. Though of a robust frame, she seemed of a very nervous temperament, speaking of her ailments in a crying tone. Her illness commenced six months ago, with pain in the right shoulder, but it quickly abandoned that part and seized on the left, running down the arm as far as the hand. This pain is now extended to the parts about the clavicle and upper third of sternum, and is chiefly felt over the brachial plexus of the left side.

What she chiefly complained of, when admitted, was substernal oppression and soreness, and difficulty of swallowing; the latter a recent symptom, which she felt most at the upper

third of the sternum. She was bled from the arm and leeched at the top of the sternum, with great relief.

January 1, 1853. This patient was examined by Dr. Donegan, who made the following report of her case, at my request:—

"An inspection of the chest makes evident an enlargement of the upper and anterior part of the left side of the chest, the superficial veins are seen also to be increased in size over the site of the enlargement; there is strong impulse when the hand or stethoscope is applied over the part. The sounds of the heart are natural, no murmur being heard with either. Above the base of the heart, as far as the left clavicle, and over the course of the arch of the aorta, two sounds are heard, synchronous with the heart's sounds, but louder and of a more prolonged character; these sounds are audible between the scapulæ and at the inferior angle of the left. Much comparative dulness exists over the enlarged part, and the respiratory murmur is absent, except during a forced inspiration; elsewhere the lungs seem healthy. The pulse is small, weak, and quick—that of the left wrist beating with less force than the right. She has had a smart attack of hemoptysis since her admission; the blood filled her mouth suddenly, it is evidently arterial and mixed with mucus, and seems to come up not by cough, but with an inclination to discharge her stomach. She was ordered the acetate of lead mixture with opium, which checked it completely; a distinct paroxysm sets in every evening with flushing, and subsides towards morning."

On the 6th January I examined her, and made the following report :—A strong and heaving impulse is communicated to the stethoscope when placed over the sternum at its superior third; the same is felt in the sternal half of the left infraclavicular region, but not at the right side; the shock felt jars on the ear; both sounds are heard, the second seems strongest; both the sounds and impulse lessen as the heart is approached, where they are normal; the shock is indistinctly perceived in the supraspinal region of the scapula. The throbbing below the left clavicle gives her much distress; pulse 104, weak; decidedly weaker in the left arm.

Marked dulness is found over the upper sternal and left infraclavicular regions; none at right; excessive tenderness on percussion over the seat of dulness. The respiratory murmur is very feeble under the left clavicle; puerile under right. The outline of the left clavicle is nearly effaced by the tumefaction of the soft parts above and below it; that of the right is un-

changed; the sternal end of the left is prominent, and the sternal hollow raised to a level with the surface of the bone.

Pain was felt of a lancinating character in the left shoulder and elbow, extending in the course of the ulnar nerve to the little and ring fingers; it was felt chiefly at night. The temperature of that arm is always colder than that of the right, both to the touch and when tried by the thermometer. Considerable engorgement exists of the left jugular veins and the external thoracic of the left side; but it is curious that no venous turgescence is to be seen at the right side of the chest. Stridor occurs in coughing, not in ordinary respiration; voice is not affected; decubitus is easiest in the prone position; she lies on the left more than on the right side, the latter posture is very difficult; but she can keep no position long. She chiefly suffered from hemoptysis, vigilia, and general malaise; the œdema of the face and neck was a conspicuous feature of her case.

The diagnosis of this case, in the absence of a visible external tumour, could not be positive; but the dulness on percussion over the upper sternum and below the left clavicle, combined with the signs of pressure on the large vessels, nerves, and bronchi of the left side of the thorax, evidently indicated some foreign body, intrathoracic, and inclining to the left side. Whether this was a tumour *upon* or *within* the vessel was a question of probabilities. The elements of distinguishing these two forms of disease are yet incomplete; and some cases of pulsating cancer counterfeit aneurism so minutely that a distinction becomes difficult: however, some approximation to it has been made. Dr. Stokes states, that a strong diastolic pulsation, when found to exist, is a sign indicative of aneurism. But even this sign, though important, is liable to doubt. A case came under my observation some years ago, of a woman named Lehane, who had a tumour in the situation of the right subclavian artery, below the middle of the clavicle; a careful examination made repeatedly by the most eminent medical practitioners in this city failed to establish whether the pulsation was diastolic or not; the former opinion prevailed, and the artery was tied, but shortly afterwards the tumour began to enlarge, and it is now the size of the human head. Whether the artery in this instance was aneurismal, or passed through or beneath the tumour, remains as yet doubtful. Still, such a pulsation would be so unlikely to belong to cancer that the chances are greatly in favour of aneurism. In the interesting case of cancerous tumours of the lung and mediastinum, given by Dr.

Law in the first volume of the present series of this Journal, except that both pulsations and sounds appeared to be absent over the tumour, all the other signs perfectly simulated aneurism. The case which I have just given resembled Dr. Law's in many important particulars, but turned out to be aneurism of the transverse aorta, involving the middle and left of the arch. The hemorrhage finally proved fatal. In aneurisms of the posterior wall of the arch or of the upper part of the descending aorta, should the parts involved take such a course as to afford indistinct pulsation or none, while the pressure signs exist, the diagnosis may be difficult and uncertain. A case occurred to me not long since, of a girl of nineteen, where dulness existed at the upper part of the sternum, with strong pulsation; the action of the heart was tumultuous, and various signs of compression existed, especially of the venous trunks. This case terminated suddenly, and an enlarged thymus gland was found compressing the trachea and the arch of the aorta; the pericardium was adherent.

In the case just detailed, the confinement of the signs of venous obstruction to the left side was rather an unusual occurrence; the pressure on the left vena innominata was so considerable as nearly to obliterate it. Similar venous turgescence confined to one side I have seen in cases of empyema, where the effusion reached a very large amount.

Case V.—*Immense Sacciform Aneurism, involving the Arch of the Aorta from the point where it left the Pericardium to the beginning of the descending portion. Communication with the Trachea. Hemoptysis. Mouth of the Sac obstructed by a fibrinous Polypus.*

Edward Richie, aged 38, mate of a ship, entered the North Infirmary, May 17, 1845; a delicate, sickly-looking man, with a leaden hue of countenance, he presented the marks of breaking health. On stripping his chest, the left clavicle was seen to be dislocated at its sternal articulation, and a pulsating tumour prominent over the surface, and of the size and shape of an orange, was visible below the left clavicle. Both sounds were audible in the tumour; but no murmnr. There were evidently two centres of pulsation in the chest: the upper was considerably the greatest, the impulse of the heart not being remarkable; pulse 102, so feeble as scarcely to be felt in the radial and brachial arteries of the left arm; normal at the right side. The left arm was partially numb, but not sensibly colder than the other; it was not wasted, but the flesh was flabby.

Pain was felt in several places along the sternum, especially at its upper and lower parts, and posteriorly at and a little above the lower angle of the left scapula, also in the epigastrium; difficulty of swallowing was referred to two places, viz., the pit of the neck and the lower third of the sternum. Throbbing pain was felt at the left half of the head; fulness of the jugulars; he could lie on both sides, but often sat up and felt relief from bending forward.

Respiration was bronchial over the upper third of the left lung anteriorly; vesicular over the right; voice was raucous; left clavicular region as far as acromial angle sounds quite dull; no sound or murmur was heard along the spine.

July 16th. The tumour during the last few days has become enlarged; its diameter is over six inches; it seems to point in two places; the pulsation, active at times, at others is almost suspended. The pain is both dull and lancinating; it is not felt at the right side. A new symptom has appeared during the last few days, namely, hemoptysis; he compares the taste of the expectoration to a stale oyster; bowels are always confined. His posture lately is very significant; he sits up inclining forwards and to the left, his head resting on his left hand. Occasionally he lies on his face, with an inclination towards the left. When he turns on his left side, in order to get ease, he remains with his right hand carried behind his back, and pressing on the inferior angle of the scapula. When he turns to his right side, he lies with his knees drawn up to his mouth. The infrascapular pain never leaves him. The tumour does not extend above the clavicle, except a little towards the sternal end; its outline gives a vaulted appearance to the left side. He gets fits of oppressed breathing, in which he becomes livid and gasping, like one dying of asphyxia; he is able to distinguish between the dull pain, which is constant, and the piercing exacerbation; the former he compares to a slow fire, the latter to the sudden piercing of a red hot iron. Lately the pulse at the left wrist has become more distinguishable; the numbness and blueness of the left arm have increased. The emaciation has been considerable, though the appetite holds good. The pulsation of the tumour diminished before death, which was sudden, and occurred in August, after he left the hospital.

Post-mortem Examination.—By the kindness of Dr. M'Evers, whose patient he had been before his admission to the Infirmary, I was present at the examination, which was hastily done, as the friends insisted on witnessing it. The body was greatly emaciated; the tumour had sunk in. On opening

the thorax, the two first ribs at the left side were absorbed for some inches; the internal surface of the sternum, at its upper third, was hollowed out, and its articulation with the left clavicle completely dislocated. An enormous tumour extended from the anterior surface of the chest backwards to the spine, to which it was adherent, and had eroded five of the vertebræ, some of them nearly through to the spinal canal. The aorta, immediately on quitting the pericardium, had become sacculated, and presented an unshapely pouch, as far as the descending portion, retaining scarcely any of its normal structure. The sac had formed adhesions to the trachea, and freely communicated with it by an opening about the size of a sweet-pea seed. The aneurism extended chiefly to the left, and contained the usual condensed laminæ; the portion which had remained pervious was recently obstructed by a mass of white fibrine, like the polypi found in the ventricles of the heart. Both the trachea and the left bronchus were compressed by the tumour; the left subclavian artery was partially obstructed by a clot; the venous trunks were also compressed. No other parts could be examined.

In the preceding case, the immediate cause of death seemed to arise from obstruction to the passage of the blood from the sac by a polypus, like what is found after death in the cavities of the heart. That this takes place during the last agony, is generally believed; the vitality of the blood at this period becoming so feeble, that it is no longer able to prevent the separation of its elements. It is probable that the diminution of pulsation in the sac during the last few days of his life indicated the decrease of fluidity and the increase of solidity in its contents, as if nature, in an effort to pour out fibrine to lessen the internal dimensions of the sac, and to strengthen its walls, had gone too far, creating an obstruction which she was unable to surmount. It appears to be not unlikely that the mode of treatment lately advised, in opposition to Valsalva, viz., to make blood rich in fibrinous elements, may be carried to an injurious extent, by lessening the fluidity at a time when a thick state of this substance increases the difficulty of its transmission. As blood, too watery, may not allow the necessary amount of fibrine to be deposited for the temporary repair of the sac, so blood, too fibrinous, may create too large a deposit, so as to obstruct the exit from the sac. The treatment most likely to be of benefit lies between both extremes.

It might be observed that the theory of Gendrin, respecting the cause of the second sound in sacculated aneurisms, viz., that they arise from the arterial systole sending a second cur-

rent into the sac, is difficult to be applied to cases like the present, where the sac has formed adhesions to bony walls affecting its contractile powers, and so small a portion of the vessel in a healthy condition exists between it and the heart. The propagation of the sound from the heart, communicated to the ear by the solid walls of the tumour, seems to agree better with data like the present.

The three following cases afford examples of sacciform aneurism of the descending portion of the thoracic aorta.

Case VI.—*Aneurism of the descending Aorta, pointing below the inferior angle of the left Scapula. Complete Atrophy of the left Lung. Universal visible throbbing of the Arteries. Distinct consciousness af Pulsation in individual Arteries.*

Mary Splaine, aged 68, was admitted to the Workhouse Hospital March 22, 1846, with a tumour appearing between the inferior angle of the left scapula and the spine. Upon a casual inspection it presented the characters of an abscess, being about the size of a cocoa-nut; the integuments over it were red and pointing. She was urgent in her entreaties to have it opened. On laying the hand on the tumour to feel for fluctuation, a strong diastolic pulsation was felt, and it became evident that the tumour was intrathoracic, and had burst through the ribs, which had become absorbed. A double sound was heard in it, the first accompanied by a bellows murmur. She complained greatly of a fluttering sensation all over the body, and the arteries were seen to pulsate visibly in every part, so that she had a most distressing consciousness of every throb of the heart, even in the most distant vessels. Anteriorly, the wall of the left side of the thorax had fallen in, as in an absorbed empyema, and no motion could be detected in it; to the eye it appeared, both in size and shape, most unsymmetrical. The right lung evidently had assumed a supplemental action, the respiratory sounds being exaggerated, while none could be heard in the left. The heart was felt beating higher up, and to the left of its usual place. She could not lie down, and her position was erect and rigid, the head thrown back on the spine, as if to take off the pressure from the tumour. Pain of a gnawing character was felt in the middle of the back. Venous arborescence was plainly marked, anteriorly, at the left side in the infraclavicular and mammary regions. This woman died suddenly, about forty-eight hours after her admission.

Post-mortem Examination.—The cavity of the left pleura was filled with bloody serum and a large coagulum; the exter-

nal tumour had disappeared. The descending aorta was found to have merged into an enormous sac, which adhered to six of the dorsal vertebræ, the bodies of which were more or less eroded, as were also the posterior portions of the ribs. The rupture of the sac had taken place at the left lateral aspect of the tumour. The heart was moved towards the left axilla; the left lung was compressed towards its root. This lung was singular in appearance: it was the size of the shut hand, perfectly bloodless, being of a white colour throughout, and not, as usually occurs from pressure, condensed; its structure resembled areolar tissue more than lung substance, not crepitating under pressure between the fingers. The right lung was hypertrophied, and pushed the mediastinum considerably to the left of the mesial line. The heart was enlarged; the cavities rather dilated; the left ventricle a little hypertrophied; the valves were natural.

I have given the above case, though but for a short time under my notice, in consequence of *the singular arterial excitement visible in all parts of the body*, without any valvular disease of the heart, or great hypertrophy of that organ. The arteries presented, on an extended scale, the appearance seen in cases of inadequacy of the aortic valves, but the bounding condition of the vessels was visible even in vessels of the third class. The abdominal aorta pulsated with the force of an aneurism, and the carotids seemed almost to leap from their sheath; the tinnitus aurium was, she stated, most painful. The patient said that she felt the individual pulsation of every artery, having a kind of morbid consciousness of the wave of blood entering each part of her body. This phenomenon of an universal aneurismal sensation is very rare; it was not a mere precursor of death, as she stated that it had been of some duration, but was daily becoming worse. There is nothing so curious in the human mechanism as the perfect equilibrium which exists in the normal condition between the blood and its vessels; the proportion between them is so nicely adjusted that in the healthy state it is unfelt. But various causes disturb this triple harmony between the heart, the arteries, and the blood, and render the movement of the circulation through the system more or less cognizable. Of these may be mentioned an increase of muscular power of the heart; emotional impulses; pressure of tumours lessening the caliber of the great arterial trunk; proximity to inflamed organs; lesions of arterial tunics; alterations in the quantity or quality of the blood; incompleteness of the aortic valves, &c., &c.

Here the phenomenon would appear only explicable on the

supposition that it was connected with the contractility of the arteries themselves, the usually quiescent nature of which was disturbed by extraordinary nervous excitement, so as to be, in fact, an universal extension of what appears locally from inflammation, or generally from sudden emotional causes. The persistent character of it makes it especially singular.

Another point in the case was the atrophied lung,—the lung was evidently wasted from disuse of its functions. The left bronchus had suffered compression, and the left pulmonary arteries, so that little or no blood or air entered the lung, the effect of pressure in this case not being to prevent the return and cause engorgement, but to impede the entrance of blood into the lung. This case seems to show that internal organs waste from the pressure of aneurism, probably in a greater degree than the external parts; whether they recover as well, should the pressure be removed, is questionable; a wasted arm may recover its functions, as we saw in Preston's case; that a wasted lung can do so is not yet known.

Lastly, the resemblance of the tumour to an abscess, its unusual situation, and the advanced age of the patient, afford a useful caution against hasty incisions. The contents of the tumour were more fluid than usual, and hence more easily mistaken, and the tumour appeared to ulcerate in two points at once. Of course the pulsation explained its true nature, but it was apparently a most inviting case for the surgeon's lancet.

Case VII.—*False Aneurism of the descending Aorta, causing death by Sloughing of the Œsophagus. Chief Symptom, Dysphagia. No visible Tumour. Absence of Pressure Signs. Pericarditis a final complication. Repeated Hematemesis.*

Samuel Adams, aged 33, sailor, a native of Brixholm, was admitted to the North Infirmary, June 20, 1846. He appeared on admission much wasted and in a state of extreme prostration, complaining principally of great soreness in the epigastric region, with palpitation. He stated that he had a difficulty of swallowing solid food, but drinks did not cause him any distress. On getting him to swallow, the effort seemed to cause him much pain. He described the morsel as passing half way down the œsophagus, then stopping for a short interval, and finally, after another exertion, entering the stomach. He had a consciousness of the passage of the food during each part of its descent; vomiting usually followed a meal, sometimes immediately, sometimes not for a few hours. His ship had just returned from Smyrna, where he was taken ill, and bled; since then he has

lost much flesh, which he attributed to the state of his stomach. A careful examination of this case was made for the possible existence of aneurism. No tumour could be felt, and on being questioned whether he felt any spinal tenderness, he stated that he suffered no pain whatever except in swallowing food: he complained, however, of a general feeling of oppression and distress. The respiratory murmur was audible at both sides and in all parts, but fainter than in ordinary cases; at the left side it was a little less distinct; his breathing was slightly stridulous while inspiring and speaking, but only if he were hurried or excited; it became clear when the excitement passed off; speaking always cost him an effort: he had to stop to take breath almost with every word, so that each sentence was a succession of vocal interruptions.

The action of the heart was irregular, the impulse augmented and tumbling, felt strongly in the epigastrium; no bellows murmur could be distinguished, either over the cardiac region or along the spine; pulse 84; a slight degree of weakness was felt in the arteries of the left arm, while in the right the beat was normal; there was no difference in the heat of both arms, and no numbness or pain in either of them. The position he maintained was either sitting up or inclined to the right side; no murmur or exaggerated sound existed in the arteries of the neck or over the arch of the aorta; percussion gave a clear sound anteriorly, except over the cardiac and epigastric regions and the right side below the mamma; no signs of dropsy or œdema existed, and the most careful examination could not detect any abnormal pulsation.

On the third day after his admission he was seized with intense pain in the left side and præcordial region, attended with fearful dyspnœa and a rapid, fluttering pulse. On auscultation a friction sound was heard. An œsophagus bougie had been introduced, at his express entreaty, and without my direction; and though it was gently used, and immediately withdrawn on meeting with an impediment, vomiting of blood followed some hours afterwards. The pain along the sternum and the scrobiculus cordis also became aggravated. The hematemesis continued to recur during four days, when he sank quite anemic, having thrown up at intervals an immense quantity of blood. His death occurred on June 27.

On opening the thorax, serum was found in both pleural cavities, amounting to over a quart in each. The left lung was pushed towards the spine, and was considerably reduced in bulk and weight; the right was attached by adhesions to se-

veral parts of the thoracic wall; no trace of tubercle existed; the left bronchus was compressed. The pericardium was stretched towards the middle line; it contained about eight ounces of serum, with flakes of lymph floating in it; spots of recent inflammation were scattered over its surface.

On removing the left lung, an aneurismal tumour, formed on the descending aorta, came into view, about the size of a cocoa-nut, and firmly adherent to the vertebral column; it bellied into the left pleural cavity for a space of three inches, but did not protrude the left posterior wall of the thorax or erode the ribs. On separating the aneurism from the spine, five of the dorsal vertebræ were found eroded. The aneurism began near the junction of the transverse with the descending portion of the aorta; the walls of the vessel for an inch below the junction were entire, but dilated; the sac then commenced and involved the whole circumference of the artery, the superior part protruded into the sac with a smooth annular margin, not unlike the os uteri; the aorta at its exit from the sac was contracted, but soon recovered its natural caliber. A close adhesion had taken place between the œsophagus and the sac, and a portion of it, amounting to nearly three inches, had become gangrenous, so that this tube communicated freely with the aneurism which had burst into it; its openings above and below were unaffected.

The stomach was enormously distended, and on removing it and the duodenum, over four pounds of blood were found.

The heart was enlarged; the left ventricle hypertrophied, and the auricles dilated; the sigmoid and mitral valves were thickened, but perfectly closed their orifices; the aorta in its ascending and transverse portions was thickened, and its internal membrane scabrous.

The liver was in a state of cirrhosis; the gall-bladder was distended; the spleen was considerably enlarged.

Aneurisms of the descending part of the thoracic aorta have fewer signs of distinction than those of the ascending or transverse portions, as they are more remote from important organs; hence, their symptoms are often insidious, and occasionally their formation and even their advance to a considerable size are not attended with cognizable symptoms. This may also arise from not meeting with a point of resistance, so that the pulsation of their tumours is not distinctly felt as in aneurisms higher up where the bony walls afford counter pressure. From the paucity of symptoms, therefore, which may occur, *dysphagia* should obtain great attention. In the preceding case it formed the symptom *par excellence*, scarcely any other being

present. Burns long ago drew attention to the fact that dysphagia may occur from aneurism of the curvature; and in the absence of direct pressure this has been explained by compression of the left pneumogastric nerve, when passing over the arch. The experiments of M. Bernard have shown that section of the nerve prevents the entrance of the food into the stomach, and produces regurgitation.

It is probable that *vomiting* occurs more rarely in aneurism of the curvature than in that of the descending part; and also that symptoms of stomach derangement, such as pyrosis, epigastric throbbing, &c., occur much more constantly in the latter instance. Emaciation is more frequently met with in aneurisms low down in the thoracic aorta, than in those of the arch. It may be observed, *en passant*, that dysphagia is an incorrect expression, as it means difficulty of eating, which does not exist in this disease; it is, however, a convenient word, and it might be hard to coin another[a]. It would be interesting to inquire whether or how far aneurisms of this part of the vessel weaken the circulation in the lower limbs, or even cause gangrene in them. In this and the next case which I shall give, the feet were always intensely cold, requiring the application of outward heat.

Absence of visible tumour or pulsation occurred in the above case. These aneurisms, when low down, expand into the posterior mediastinum, and sometimes are not even suspected till the patient is suddenly cut off. This is particularly the case when the direction of the tumour is to the left; it is then also less in the way of the œsophagus. It might be supposed that pulsation could always be perceived over the spinous processes of the vertebræ, opposite the aneurism, which adheres generally to their bodies, but experience negatives this supposition.

The destruction of so much of the œsophagus as three inches, combined with the duration of life for four days after the first hematemesis, is an interesting occurrence; it is likely that a temporary coagulum blocked up the communication.

The absence of pain, notwithstanding the erosion of the vertebræ, is a peculiarity of this case, and in strong contrast with that of Richie. Thus we see that the gravity of this symptom, or its lightness, are not certain measures of the degree of danger present.

[a] Dysphagia does not occur in any Greek author, neither is it to be found in Stephens' Thesaurus; δυσβροχθια from βροχθος, *guttur*, might be suggested as more nearly representing "difficulty of deglutition."

Case VIII.—*False Aneurism of the descending Thoracic Aorta behind the Heart, and pushing it forwards. Powerful double Impulse. Simulation of Hypertrophy. Death from Hydrops Pericardii.*

James Murphy, aged 39, a soldier, was admitted into the North Infirmary, October 19, 1850, complaining of palpitation of the heart. He stated that he had served twenty years in India, was in hospital there, in 1836, for syphilis, and in 1848 had a severe attack of syphilitic rheumatism, with nodes on the tibiæ. It was since this illness that he noticed the unusual beating of his heart. He has also suffered since the same time from piercing pain in his back, a little to the left of the lower dorsal vertebræ, for the relief of which two issues had been inserted.

On stripping the chest, attention at once was directed to a remarkable visible movement in the præcordial region, the character of which it is not easy to describe. Instead of the heart striking the thoracic wall as a distinct organ, the whole wall of the anterior left side appeared to move forwards by one violent throb, as if attached to the pulsating body, and carried with it. Immediately succeeding this was a second movement, also visible to the eye, with which the side sprang back to its place, with a force resembling the recoil of a strong elastic spring drawn outwards and then let go. The direction of the pulsation was likewise unusual; the motion did not seem to originate below the left mamma, nor was its course from behind directly forwards, but obliquely lateral. The movement seemed to begin a little below the right mammary region, and to pass suddenly towards the left mamma, drawing the wall with it; the recoil or *back-stroke* was as vigorous as the advancing impulse; indeed, at times, it exceeded it in the shock imparted. Both were so strong as to shake the bed.

Palpation gave similar results with ocular inspection; the heart was felt to impinge by a broad surface, extending an inch from the dextral side of the sternum to the left nipple; it was pushed a little to the right and kept in approximation to the bony wall, so that it could not retreat towards the spine without dragging the chest wall with it. The second impulse was prolonged, and seemed to dwell under the hand; the impulses and pauses appeared of about equal duration, the whole constituting a pendulum-like movement.

A remarkable *frémissement*, synchronous with the pulse at the wrist, was felt by laying the finger in the second intercostal

space, at the left side, near the sternum, when he lay horizontally; in the erect position it was felt an inch lower down, and less distinctly. Over this part a peculiar whistling sound was audible, ranging over the upper third of the sternum. A bellows murmur, at the close of the first sound, was heard loudest in the centre of a line from the nipple to the sternum; the second sound was distinct. Dulness on percussion extended to the right of the sternum, and all along that bone, it existed also at the lower part of the left side posteriorly. The præcordial region was remarkably prominent. The respiration was exaggerated at the right side, feeble at the left, and was absent posteriorly over the inferior third of the left side.

He suffered much from dyspnœa, which was brought on by very disproportionate causes. The double shock, especially on occasions of excitement, was heard posteriorly at the left, but with less intensity; the sounds also were heard, but not the murmur.

His pulse was 84, small, perfectly regular, and contrasting most remarkably with the strength of the cardiac impulse, so that the medical pupils, on comparing them both, could not refrain from expressing much surprise; no bounding of the arteries existed.

He lay always on the left side. There was occasional cough; no hemoptysis, but some epistaxis; no dysphagia, or stridor, or alteration of the voice; the veins of the neck were not swollen, but there was great lividity of the face and hands. The feet were always stone cold.

His chief source of complaint was pain; this was felt in a minor degree, like a tightness over the heart and the epigastrium, but was intense below the left scapula. It was aggravated by the recumbent position, and at night, at times, it was so insupportable, that though he was a patient man, his cries were heart-rending.

In diagnosing this case, apparently of hypertrophy of the heart, there were grounds for suspecting the existence of aneurism—viz., the strong double impulse, the infrascapular dulness, and more especially the agonizing spinal pain—its boring character, and persistence under every form of treatment, without any other evidence of spinal disease. During several months I frequently examined him along the back without finding below the left scapula either prominence, murmur, or pulsation. Many others—among whom I may mention Dr. R. Lyons—examined him with the same result. It was singular that intermissions of the pain occurred under treat-

ment, so that he entertained hopes of permanent relief; but they were delusive. He found, on the former occasion, so much benefit from the insertion of the issues that they were opened for a time with some advantage.

This patient left the hospital, and was readmitted in June, 1851. I found that the dyspnœa, before an occasional symptom, had become constant and excessive; the prominence of the præcordial region was more marked, and the pain of more frequent occurrence; the other symptoms were nearly unaltered. From this time, however, to the period of his death a great change ensued: the visible impulse gradually lessened, and finally became imperceptible; dulness of sound was traced, creeping each day higher up the sternum, until it was little more than an inch from its notch, and spreading to the costal cartilages at each side. The dyspnœa became terrific towards the close, and the pain never abated. He sank from physical exhaustion; whatever signs of aneurism may have existed previously, disappeared towards the end of his life, being absorbed by those of a new disease.

Post-mortem Examination.—The pericardium, swollen with fluid, was seen occupying almost the whole anterior part of the thorax, reaching nearly to the top of the sternum, and displacing the lungs to each side. Its enormous size made it a most conspicuous object. It was tense, and contained from two to three pints of serum; it had evidently been enlarged from below upward. The heart was increased in size, but not at all to the extent conjectured from its inordinate impulse; both ventricles were dilated and hypertrophied; it was pushed upwards higher than usual; the valves were sound. A very large aneurism was found lying behind the heart, and adherent to the posterior surface of the pericardium. The ascending aorta and the arch were dilated, and their internal surface was rough with calcareous and atheromatous deposits. A little below the beginning of the descending portion the aneurism commenced, and occupied about six inches of the vessel. It lay *on* the spine and projected considerably into both cavities, but more into the left than the right; its posterior wall was attached to the spine, and had deeply eroded the bodies of several of the dorsal vertebræ. No rupture had taken place; the left lung was pushed upwards, and condensed to half its size; the right was enlarged in volume, and full of frothy serum.

The preceding case resembled, in many points, one detailed by Dr. Hope in his classical work, and corroborated the con-

clusions at which this eminent observer arrived. "I searched," he states, "during ten years for an aneurism immediately behind the heart, with the view of ascertaining whether the presence of this organ in front would or would not disguise the aneurismal impulse and murmur, and render the physical diagnosis impossible." He then proceeds to describe a case which fulfilled these conditions, and observes,—that it led him to the discovery of the *double jog* as a new sign of aneurism, both the systole and diastole partaking of the jogging character. In such cases the heart is pushed forwards and outwards, according as the aneurism encroaches on the space between the vertebral column and the anterior wall, and gains room by protruding the latter, as the bony pillar behind is unyielding. Hence we had, in the present case, a very remarkable vaulted appearance of the lower part of the anterior left side and sternum, and a smoothness of the intercostal spaces. In Dr. Beatty's interesting case of abdominal aneurism, the liver obtained the character of being greatly enlarged by a similar supposititious prominence, but was found merely pushed forward by the aneurism behind it, and so forced against the ribs, as to be indented. It is evident that the relative position of the heart, and the aneurism to the spine, must affect the visible movements of the former. In such a case two pulsating bodies come into contact while an unyielding fulcrum is behind them, so that their mutual action must be exerted against the movable wall in front; when, however, the aneurism diverges to either side, the arterial pulsation usually changes its direction, and the aneurism presents between the scapula and the spine. In post-cordal aneurism the forward or systolic impulse is compounded of two movements,—one, the usual tilting forward of the apex; the other, the expansion of the aneurism by the wave of blood, adding its heaving impulse to that of the heart. Hence the shock felt is more a sudden springing forwards of the thoracic wall than a stroke, and its direction mostly from right to left.

The second impulse was diastolic, and may be explained either by the heart, when in a state of dilated ventricular hypertrophy, giving, as its apex retreated from the anterior walls, during the diastole, a *back-stroke* against the spine, or receiving itself, while dilating, and thus occupying more space in a contracted area, a second stroke from the systole of the aneurism behind it. I am inclined to think the former explanation more applicable, as the sensation conveyed was decidedly a forward and backward movement, and not a double forward impulse; the backward movement appeared deep-seated. The systole of the

artery is not a necessary element for its production, as it is felt, when solid tumours exist, between the heart and spine, though less distinctly, and also, as Hope has shown, in certain cases of great hypertrophy of the heart. His expression of a jogging movement was intended to denote the abrupt manner in which the impetus terminated, giving the idea of a mechanical movement suddenly checked, such as is felt by suddenly turning the cock in a vessel through which water is flowing. The regularity in the rhythm of the movements in the above case is to be noticed, as in some cases of adherent pericardium the double impulse is less regular in time and force.

The occurrence of pericarditis as a termination of this case and of the preceding is worthy of notice; it is too frequently met with in cases of aneurism of the descending thoracic aorta to be merely accidental. The contiguity of the diseased vessel to the heart, and the probability of inflammation being conveyed by its abnormal movements, and alterations to the posterior surface of the pericardium, only make it strange that it does not more constantly occur.

The *frémissement* in the case was explained by the rugged state of the internal surface of the dilated aorta: the absence of dysphagia is what would not be expected from *a priori* reasoning, as both the aneurism and the pericarditis were calculated to produce it[a].

In comparing the three preceding cases, the following observations suggest themselves:—

That in aneurism of the descending portion of the thoracic aorta, the paucity of diagnostic signs is characteristic.

That of the signs more commonly found, dysphagia may be the only material one present, or absent altogether, and that aneurism of the descending portion is usually attended with more symptoms of disorder of the stomach than aneurism of the curvature.

That comparative feebleness of the respiratory murmur in the left lung in these cases, or partial absence of it, is a valuable sign; and that sudden changes from quietude of respiration to great dyspnœa, are liable to occur from causes not commensurate with the effects produced, or the physical signs in the lungs.

That boring pain of the back is an important sign when

[a] *Vide* Walshe on Diseases of the Heart and Lungs. Second Edition, p. 595.

present, but may be absent, though vertebral erosion has occurred.

That in post-cordal aneurisms, the *frequency* of the heart's movements is not so much affected as might be supposed from so great a cause of irritation in its vicinity.

That the powerful movements of the heart are in marked contrast with the tranquillity of the pulse at the wrist, making it probable that the phenomena are not due to hypertrophy of that organ.

That the prominence of the walls is greater than what usually occurs from enlargement of the heart.

That the diastolic impulse is stronger, more equable, and more distinctly perceived in these aneurisms than in hypertrophy or adherent pericardium.

That diminished or vesicular murmur in the left lung, or absence of it, with dulness on percussion below the left scapula, piercing spinal pain limited to the same part, and strong double impulse, are, in the absence of a visible pulsating tumour, a combination of diagnostic marks most likely to belong to post-cordal aneurism.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. *A Dictionary of Practical Medicine, comprising General Pathology*, &c., &c. By James Copland, M. D., F. R. S., &c. Part XVII. London: Longmans, 1855. 8vo, pp. 1009 to 1152 of Vol. III. "Tabes" to "Tubercular Consumption."

2. *Hooper's Physician's Vade Mecum; or, a Manual of the Principles and Practice of Physic.* Fifth Edition, considerably enlarged and improved; with an Outline of General Pathology and Therapeutics. By W. A. Guy, M. B., &c. London: Renshaw. Dublin: Fannin and Co. 1856. Fcap. 8vo, pp. 676.

3. *A Manual of the Practice of Medicine.* By George Hilaro Barlow, M. D., &c. London: Churchill, 1856. Fcap. 8vo, pp. 706.

4. *Elements of Medicine. A Compendious View of Pathology and Therapeutics; or, the History and Treatment of Diseases.* By S. H. Dickson, M. D., LL. D., Professor of the Institutes and Practice of Physic in the Medical College of the State of South Carolina. Philadelphia: Blanchard and Lea, 1855. 8vo. pp. 752.

The difficulty of compiling a treatise on the practice of medicine few can conceive except those who have themselves essayed the task. First has to be considered whether the work is intended to be a book of reference on difficult points arising in the diagnosis and treatment of disease for the busy and hurried practitioner, as a safe and trustworthy guide to the junior physician just emerging from the schools, or as a directory for the student, to aid him in his attendance on cli-

nical and theoretical instruction. This plan being settled, then comes the question as to whether the author will lay before the profession a thoroughly original book, consisting solely of his own views and opinions as derived from practical experience, or a careful analysis and exposition of the writings and published reports of others, arranged and adapted by his own mind; or, in fine, if it is to consist solely of a record of what is generally admitted as being true at the time he writes as to the nature and treatment of the several maladies to which the human frame is subject. As no individual mind can thoroughly comprehend every branch of science, and thus every great advance in the knowledge thereof has been in all ages made by those who have applied themselves to the special study of some one subject, so we think of medicine. Monographs are, therefore, very naturally preferred by the physician who seeks for information on some individual disease or on some class of diseases. It is of no use crying down specialty in medicine or in surgery; the profession will adopt, and the public will seek after, him who has applied himself to the study of some individual group of maladies, as an authority and guide in the treatment of these affections. Such a class of practitioners must, we need scarcely say, be confined to our great cities; and it is from them, of course, those prized monographs proceed. Of the value and importance of these writings no one can doubt: nevertheless, we still require complete treatises on the practice of medicine; and such, too often even when very inferiorly executed, have always found favour at the hands of the profession.

We have over and over again referred in the pages of this Journal to the *magnum opus* of Dr. Copland, as the numerous Parts of which it is composed appeared. Commenced in our days of pupilage, and its publication at present extending over a period exactly of twenty years, we feel ourselves growing old with it, though its veteran author still bravely holds out. Nevertheless, we grieve to say the latest published Parts exhibit some evidences of senility in composition, and more especially in recent research. The early portions of the Dictionary indicate the most thorough knowledge of the subjects treated of, and of their literature, up to, we might almost say, the very day of publication; and yet, if we now refer to them, what are they but the records of the state of medicine twenty years since?—the busiest twenty years, as regards the scientific advancement of our profession, which have ever elapsed in its history. We need but mention what has been so lately effected by microscopic and chemical investigation. We do not want

to find fault with Dr. Copland specially on this head; but, in the name of the profession, we cannot forbear complaining again and again of a system, now not so much in vogue as it was a short time since, of commencing the publication of a book in Parts, of the ultimate extent or conclusion of which the author, as is evident in the case before us, has no distinct idea. How many of those who purchased the first Part on the faith of Dr. Copland's announcement in the prospectus on the back of the cover, dated April, 1835—"It will be completed in the course of a few months," now no longer exist to witness such a gross breach of faith? and what security had or have any of the subscribers that the author, who, as he himself informs us, has been in the habit of recording his references since the year 1814, will be spared to complete his work? We make these remarks in no invidiousness to the able, learned, and indefatigable compiler of the Dictionary of Practical Medicine; we do so with grief to think that a work which, if completed within the period and limits originally announced, would have been not alone a monument of the industry and extensive practical knowledge of a British physician, but would have also stood to all ages as an evidence of the state of British medicine at the time in which it was published, corrected, as it undoubtedly would have been, by the publication of repeated editions,—will now, if ever completed, exhibit inequality as a whole—statements and opinions differing with each progressive Part.

We have intimated that the later published essays show, as might naturally be expected, a diminished amount of recent practical observation and of sufficient acquaintance with the general and periodic medical literature of late years: in proof of this we shall refer to one or two articles in the seventeenth Part—that published towards the close of last year—merely to prove, that Dr. Copland either ignores, or is unacquainted with the publications which have issued, not parsimoniously we are proud to say, from the Irish School of Medicine, and this is a duty imposed upon us, in our editorial capacity, as its chief representative.

With this view we shall notice two of the articles contained in the last Part of Dr. Copland's Dictionary, and first, we shall shortly refer to that headed "Tinea." Were we inclined to be hypercritical, we should find fault with this denomination, for under it dermatologists, until a very recent date, included all forms of skin disease which affect the scalp; and this error the author tends to propagate by the varieties of the disease which he here describes. His observations certainly present

an admirable *resumé* of all that was formerly known regarding the diagnosis and treatment of eruptive diseases of the scalp, as compiled from writers dating so far back as Celsus and Paulus Ægineta, up to the end of the first quarter of the present century; but he appears to be either totally ignorant of, or purposely to overlook, the writings of the modern French School, which has done so much to advance our knowledge of cutaneous diseases generally; and the same remark equally applies to Irish writers; thus we find no mention either in the text of the article, or in the bibliographical summary at the end of the names of Devergie, Gibert,—the last reference to Cazenave, is to a paper of his published twelve years ago, his continued writings and more matured observations since then being unnoted,—or to Neligan, the latter of whom has not alone written on the subject in our pages, but has also published a distinct essay on Eruptive Diseases of the Scalp, and a treatise on Diseases of the Skin, the former of which appeared in the year 1848, and the latter in 1852. We need scarcely add, then, that Dr. Copland's account of porrigo capitis, or, as he terms it, tinea, presents a very imperfect representation of the present state of knowledge on the disease, and, therefore, cannot be regarded by the physician as a certain or trustworthy guide.

The following essay in the Dictionary is on a rare class of diseases,—namely, those of the Tongue, and, therefore, we should have expected, perhaps, a more accurate acquaintance with the writings of those who have published upon them. The paper of Dr. Eben Watson, which appeared in the Glasgow Medical Journal for April, 1854, might have been too recent to expect the author to include it in his bibliographical references, or to have noticed it in his text; but surely the important and valuable observations of the late Dr. Graves, contained in the second edition of his Clinical Medicine, published in 1848, should not have been altogether omitted, and the Essay thereby rendered incomplete and imperfect.

We might refer, were we so inclined, to several other omissions, not alone in the last, but in the previous Part of Dr. Copland's Dictionary of Practical Medicine, but we think we have said enough to show our readers the necessity of discouraging the publication of books in Parts, and to authors the danger of so doing: age is an uncertain staff to lean upon, and although it has been said truly, that with the advance of years is the advance of knowledge, it does not follow that our power of imparting it to others is equally progressive, or our capabilities of painstaking research increased thereby.

There were few works more wanted than a Manual of the Practice of Medicine; it has always been a desideratum with students and lecturers, and has been no less anxiously sought after by the junior practitioner, usually compelled to be content with little study, from vexatious hurry and occupation of time attendant on dispensary and workhouse practice: to him, in especial, "Great books are a great evil." It is for this reason that, year after year, Gregory's Practice of Medicine held its place as a text-book, and, inferior as it was in most respects, passed through many editions, artificially aided, perhaps, by its having been made the manual for military medical officers, who were obliged, by regulation, to have it, together with Cullen's Nosology, in their small medical library. Hooper's Physicians' Vade-Mecum too, long held its sway, and, of late years, as improved in successive editions, more especially in that just issued from the press, is deservedly, we must say, esteemed as a safe guide, being accurately and carefully brought down to the present state of practice; and even after having carefully read Dr. Barlow's book, we must state our opinion, that it will still hold the first place. The part altogether contributed by its present editor presents just a sufficiency of physiology and pathology requisite to the correct study of the nature and treatment of disease[a]. Watson's Lectures, too voluminous for the student, too light and ornate for the physician engaged in the severe practice of his profession, yet commanding a large sale, chiefly from the readable style, and the agreeable conversational manner of the author, constitute a book which still leaves the want we have referred to unsupplied. Wood's fine work, in two large and closely printed volumes, an important edition to medical literature, especially to that of America, is a careful and admirable exposition, well brought down to our own times, yet wanting freshness and originality, and, therefore, constituting but a dull record of the opinions of others, and, though a faithful work of reference, heavy reading. It is several years since the first Part of a book entitled the "Elements of the Practice of Medicine" was published by Drs. Bright and Addison, of London; it included fevers, diseases of

[a] We would suggest to the publishers to omit altogether the name of the late Dr. Hooper from the title-page of all future editions: it has been so altered, so improved, so extended, and so thoroughly re-written by Dr. Guy, as to be now completely his work, and therefore should appear solely under his name. Indeed we feel confident that were the physician whose name still appears connected with it to rise from the dead, he would not recognise the present edition as bearing any relationship to his own original diminutive literary offspring.

the respiratory organs, of the heart, of the brain, of the organs of digestion, of the kidneys, rheumatism and gout; but, unfortunately, was never completed, for we know of none to compare with it in conciseness, combined with accuracy. We had therefore, the more reason to expect that "their former pupil and present colleague," Dr. Barlow, as he naturally boasts in his Preface, would have presented us with a book worthy of such names as teachers, and equal to take its place with the other manuals of our great English medical publisher, Mr. Churchill, among which it appears. Yet, we regret to say, that after years of preparation on the author's part, and years of expectation on ours—for its publication was first announced some six or eight years ago—we are altogether disappointed with the result now before us. But as it has never been our custom to condemn any man unheard, or to criticize unfavourably a book without due and sufficient reason, we shall proceed to lay before our readers the premises on which this conclusion is founded.

The author proposes no novelty in arrangement or classification, but commences with a few preliminary observations: speaks very shortly of the causes of disease; the modes of death; the elementary changes to which the body is liable as a deviation from the healthy state; then plunges into inflammation, an account of which, its signs, forms, termination, and treatment, occupies more than a hundred pages out of the seven hundred of which the book consists; next auscultation and diseases of the lungs are considered; and, in succession, the author treats of diseases of the heart, diseases of the abdominal organs, diseases of the brain, fevers, cholera, and influenza and hooping-cough considered together; devoting, in conclusion, four pages to what he terms diseases of adolescence and puberty,—this chapter consisting simply of a very defective account—as our readers can easily imagine—of menstrual derangements and of hysteria.

Now, we have no intention of occupying space, which can easily be more profitably employed, with a complete review of Dr. Barlow's Manual. We shall take up one class of diseases to prove our position, that the book is imperfect and incorrect, and therefore cannot be regarded as exhibiting a concise view of the present state of the practice of medicine in the British islands, which it should, in order to constitute a safe guide for the student or practitioner. We shall notice the very first class of special diseases described, namely, those of the organs of respiration, and shall confine our criticism to these alone.

And first, as regards the imperfections in this section. We do not find any reference to, or mention of, Pulmonary Apo-

plexy, Emphysema, Exudative Bronchitis, and Laryngeal Polypi, all highly important diseases, and the three former not at all uncommon. Hooping-cough, too, is not noticed in this part of the volume, but is classed, as we have already said, in a separate chapter at the end of the book with Influenza, a single page only being devoted to each.

The account of diseases of the chest is very properly introduced with a chapter on Auscultation, in which is contained a general notice of the application of percussion and the stethoscope to their diagnosis, and an explanation given of the terms ordinarily employed to designate the healthy and morbid sounds, with a reference to the causes by which they are produced. With the following observation of the author we cannot at all agree, for we consider that a mapping out of the surface of the chest, which he condemns, is necessary, if, for no other purpose, to facilitate description in writing of, or lecturing on, auscultatory phenomena:—

> "Many authors have thought it expedient to map out the chest into different regions for the purpose of more accurately locating morbid changes or signs. As, however, the chest is provided with natural lines of demarcation, such artificial division appears to be unnecessary, and upon the whole rather an embarrassment than an aid to the learner, whilst the mind of the more practised auscultator will always associate any portion of the surface of the chest with the parts beneath it, too readily to require any such artificial boundaries."

This chapter is especially defective in the omission of any full or complete description of the views of Skoda; indeed, whenever Dr. Barlow refers to the opinions of the great founder of the modern German school of auscultators, it is to express his dissent from them. No matter what the author's own estimate of this new theory of auscultation may be, he should at least have given his readers—whom we must suppose to be chiefly students and junior practitioners—an insight into them. Although we cannot ourselves subscribe in every particular to the explanations put forward by Skoda as to the causation of lung murmurs, we have no doubt that his views have done a great deal to explain much that was before obscure; and we feel certain that whoever has carefully studied his writings will agree with us in this opinion.

The next chapter includes a description of Cynanche, Laryngitis, and Croup. The first of these diseases—Dr. Barlow applies the term to designate Tonsillitis, Diphtheritis being also cursorily alluded to in connexion with it—is very gra-

phically put before the reader; nor have we much fault to find with the author's plan of treatment, except that he does not notice the means of evacuating matter when it forms, by an emetic, nor the good effects so often derived from scarifying the tonsils with a lancet in the early stage; moreover, he does not refer to the application of a strong solution of nitrate of silver in chronic tonsillitis, when these glands are considerably enlarged, the only effectual local remedy then. Laryngitis, too, is very well described; but we cannot here either praise much some of the author's opinions as to the effect of remedies, more especially when he discourages the practitioner in the following words from the active use of mercury, which should, in our opinion, be his sheet-anchor:—

"The tendency of calomel to set up inflammation about the fauces, and to induce ulceration of the larynx itself [!], suggest [*suggests*] the prudence of a more limited use of that remedy."

Now we cannot understand how Dr. Barlow reconciles this observation with the following, contained in the very same paragraph a little further on:—

"By a steady perseverance in these means, we may often succeed in carrying the patient safely through this most dangerous disease, *which not uncommonly recedes, just as the signs of the action of mercury upon the system are beginning to show themselves.*"

In speaking of the treatment of chronic laryngitis, the direct application of the solution of nitrate of silver to the interior of the tube is not noticed; nor have we any mention of that peculiar form of the disease so well described by Horace Green, Mackness, and Eben Watson, under the name of "clergyman's sore throat."

Croup is very fully described, a large space being devoted to its symptoms, diagnosis, and treatment. In referring to the stethoscopic signs of the disease, the following statement has puzzled us not a little; in fact, we confess our inability to comprehend what the author means:—"When, however, the disease has extended down the bronchi, there is, in addition to the above, *bronchial or tubular respiration.*" In speaking of the *prognosis*, a few pages further on, Dr. Barlow even corrects himself when he says, "the danger, however, is always very great, when from *a sibilant respiration over the larger bronchial tubes*, we have reason to believe that the inflammation has extended to them." To the following summary of the plan of treatment he recommends in this formidable disease we have nothing to object, except the omission of the hot

bath, which has always proved in our hands the most valuable adjuvant to other remedies in the earlier stages of the malady:—

"It may be well again briefly to recapitulate the chief points in the treatment of this formidable disease. At the commencement, in children who are not very robust, endeavour at once to arrest its progress by emetics of potassio-tartrate of antimony, followed by nauseating and depressing doses of the same medicine, and if necessary by a purgative. In more robust children in the country, and when the disease is verging on the second stage, bleed and then adopt the same plan, adding the calomel, and if the disease continue to resist this mode of treatment, and the antimony appear to depress more than is consistent with safety, push the calomel. If all other remedies fail, and suffocation appear imminent, tracheotomy is admissible or rather justifiable, though only when there is no apparent hope from any other course, not that the operation is in itself a very dangerous one in skilful hands, but for the reasons assigned above, and also because in cases where it is not called for by the imminent suffocation, the irritation of the trachea which must attend it, as well as the direct admission of cold air into that tube, cannot but aggravate the existing inflammation: it is on this account essential, when the operation is resorted to, that the temperature of the room should be raised to 80° or 85° Fahr., and the air kept tolerably moist by the presence of vessels of warm water, exposing a considerable surface for evaporation."

Chapter xi. is devoted to Catarrh and Bronchitis. In it Hay-Fever is also incidentally spoken of, the only notice given of this singular and interesting affection being in the following words:—"Some persons are liable in the hay season to a modification of catarrh, known as hay-fever, and which is ascribed to *something emanating from the flowering grass.*" In the treatment of the severer forms of Acute Bronchitis, the author does not, in our opinion, lay sufficient stress on the importance of the administration of mercury, so as to affect the system, the most certain therapeutic agent when the disease attacks young persons, or those in whom the constitution is strong; indeed he rather discountenances its employment, and for the following very fanciful reason:—"In cases of capillary bronchitis, which are the most urgent and dangerous, we can never feel confident that the disease has not a tuberculous origin, and in such cases the use of mercury in any considerable quantity would tend to aggravate the mischief." Dr. Barlow seems here quite to forget that mercury has, in the hands of some practitioners, been found one of the most effectual remedies in the early stages of tubercular phthisis, and therefore, even were his method of reasoning at all logical, it would

not be admissible, as his postulate is not sufficiently proved. He also, we consider, most unjustly inveighs against the use of blisters in bronchitis. There is no remedy in which we have more faith; and we have frequently seen a threatened acute attack of the disease cut short in its first stage by counter-irritation, freely applied over the front of the chest.

In Chapter XII. Pneumonia and Pleuritis are described. The former Dr. Barlow defines to be *inflammation of the air-cells* of the lungs, a definition not alone calculated to give erroneous ideas to the student, but certainly not correct. True pneumonia, nearly all authorities, we thought, were now agreed upon, in regarding as an inflammation of the *interstitial texture* or parenchyma of the lungs, a view all but definitively settled by the experiments of Gendrin; it may, it is true, originate in the air-cells, but it may also have its *point de départ* in the mucous membrane of the bronchial tubes, or in the pleura. The author's account of the course of the disease, of its symptoms and pathology, are in general very excellent; the only omission of importance we notice, being of the epidemic form in which it so generally assumes a fatal typhoid type, when post-mortem examination usually reveals a peculiar deep blue colour of the densely congested lung texture, so remarkable, that when it raged extensively in Dublin some years back, it was described by some of our pathologists before the Pathological Society under the name of *blue* pneumonia[a]. His observations on the treatment of the disease, too, are very good, if we except a little too much love for the lancet, and for the early administration of purgatives, a predilection, which, from a manifest leaning towards the old doctrines of inflammatory action, evidently influences Dr. Barlow's views of treatment, as inculcated everywhere throughout the volume. Pleurisy, as its importance properly demands, is very fully entered into; the account of the symptoms being preceded by a sketch of the anatomical changes in serous membranes, on which its symptoms depend. In the description of the characters of the effusion we find the following observation, one so manifestly incorrect as to need no comment from us:—

"When the fluid remains in the cavity of the chest for a considerable time, or when it occurs in an unsound constitution, it commonly assumes a puriform character, presenting every possible gradation between serum rendered turbid by the presence of a few pus globules and perfect pus; this is termed *empyema*."

In speaking of the peculiar characteristic pain, it is described

[a] See First Series of this Journal, vol. xxi. pp. 143 and 291.

as being felt most commonly at the seat of the inflammation. Now this observation does not agree with our experience, or with that of nearly all those who have written on the disease: the especial seat of the pain being almost invariably about an inch below the mamma of the affected side. There are many other points in this chapter, and in the following one on Phthisis, to which we might take exception, but we think we have brought forward evidence enough to prove, that Dr. Barlow's Manual cannot be, with confidence, recommended to the student or junior practitioner.

The book contains numerous formulæ for the medicines recommended to be prescribed, and these are written throughout in the most barbarously contracted Latin, a practice which cannot be too strongly condemned, and we, therefore, regret much to see a physician of the position of Dr. Barlow set such an example to the younger members of the profession[a]. For instance,—

(17) ℞ Vin. Antim. Pot. tart. ℥ ii.
Sp. Æth. nit. ℥ i.
Tinct. Hyoscyami, ℥ i.
Mist. Acac.
Syrupi Aurant. āā ℥ ss.
Liq. Ammon. acet. ℥ jss
Mist. Camphoræ, q. s.
Ft. Mist. ℥ vj. de *quæ* sumat part. 4tām quārt. quāq. hor.

℞. Pulv. Ipecac. co. gr. iv.
Ext. Coloc. co. gr. vj. Misce.
Ft. Pil. ij. h. s. sumend,

Or,

(18) ℞. Quinæ Disulph. gr. vj.
Mag. Sulphat. ℥ iij.
Acid *Sulphat.* dil. ℥ ss.
Syrup. Aurant. ℥ ss.
Infus. Aurant. co. ℥ iijss. Misce.
Sumat. part. 4tam ter die.

[a] It would be, we think, a very great improvement in medical literature if authors were to write their prescriptions in English, and thus make them a readable portion of the text; they would thereby, moreover, avoid those very serious errors which so commonly occur therein from printers' misprints, and also escape the numerous Latin solecisms generally arising from the same cause, in which they so invariably abound: two of the latter, as indicated by the Italics, occur in Dr. Barlow's prescriptions above cited. This rule has been invariably adopted in our Journal, since the commencement of the new series, and, as our experience has taught us, with excellent results. Latin prescriptions are only admissible in books on Materia Medica, where they are introduced usually as models for the student and young practitioner, and even then they should be always written in full, and never contracted.

The style of the language used throughout the volume is far from elegant, and is constantly ungrammatical:—"getting wet through, or *wet-footed*" (p. 195); "the drink being slops" (p. 196); "although those of a *nervous* temperament are undoubtedly more liable to *nervine* affections" (p. 184); "there *is* thirst *and* often headache" (p. 199); "some *portions* of the pleura *is* found adherent" (p. 263); "*a communication* between the external air and this cavity *are* not so."—(p. 262.)

We regret much that we have been compelled to pass so harsh a judgment on this book, the more especially as it appears in the good company of Mr. Churchill's most excellent Series of Manuals; but as we knew that such a position would in itself insure for the volume a certain degree of character with the profession, we felt the more bound, in critical duty, to examine it most carefully, and to express our unbiassed opinion on it the more openly. A second edition may, perhaps, enable Dr. Barlow to correct, alter, and emend, all of which are required; but if he wishes his book ever to become *the* manual of practice of medicine for the student, we would recommend him to re-write it altogether.

Dr. Dickson's volume is divided into two parts—the first devoted to general pathology, and the second to pathology and therapeutics; but we think the author would have better described these divisions if he had said, the first treated of the principles, and the second of the practice of medicine. It is a sufficiently concise and practically written volume, the first part being especially deserving of commendation as supplying a want much felt in our literature: the only book on the subject in the English language worthy of name being that of Dr. Williams, of London, a new edition of which we are happy to see announced for immediate publication. This Part consists of five sections, devoted to the consideration of—1. The Nature of Disease; 2. Etiology; 3. The Seats of Disease; 4. The Phenomena of Disease; and 5. The Tendency of Disease: the entire constituting not quite one-fourth of the volume. From the latter section we make the following extract as an example of the comprehensive yet concise manner in which Dr. Dickson treats his subject, and of the pure and elegant style in which he writes. Indeed, in reading the volume we have never, from the language, once even had the idea forced upon us of the country of the author—a very unusual case with American medical books.

"The *tendency* of all the various forms of *disease* is essentially and in their own nature to death; death either of a part or of the

whole body, according as the morbid affection has been general or local. The announcement of this opinion may be startling to those who have received the ancient and plausible doctrine of the existence within the constitution of a restorative power, from time immemorial, denominated the *vis medicatrix naturæ*, by whose agency the movements of diseases are aroused and directed to the expulsion of some morbid cause, or the renovation of some injured portion of structure.

" During the ancient reign of the humoral pathology, in its undefined, unlimited, and exaggerated form, all fevers, the exanthemata especially, were imagined to constitute mere efforts of nature for the expulsion of some morbific matter by eruption or transudation. The practice deduced from such notions was equally sound and reasonable. The patient was sweated with blankets in a close room, often heated with artificial fires, while the powers of nature, suspected of being insufficient for the attainment of her purposes, were supported by the administration of stimulating cordials and alexipharmics. Nay, even in the writings of a Cullen and a Rush, and in some of the lucubrations of the present day, we find fevers and the phlegmasiæ attributed to this supposed recuperative reaction after debility; as if any cause, in its own nature depressing or sedative, could carry with it an essential proclivity to an excitant operation, or, as if the human constitution were so disposed as to swing, like a pendulum, as far on one side of its correct centre as it had been previously drawn or pushed to the other.

" The animal body is a combination of machinery so admirably constructed that, like an ingenious piece of common mechanism, it has a tendency to continue the movement or mode of action for which it was made, and which, when it began to live, it began to carry on. There are many circumstances, however, such as have been enumerated among the 'causes of disease,' which serve, when brought into contact with it, either to obstruct these regular and natural actions, or force it to fall into certain new and irregular movements—the multiplied forms of disease.

" Happily for us, few of these causative agencies are permanent in their application or influence. The occasional excitement is removed or passes away, or the predisposition, the susceptibility to its effects, wears off, or is exhausted; the morbid impression, if not renewed, undergoes a gradual effacement by the ordinary processes of use, waste, and supply, and is ultimately obliterated, the system returning to its original condition of health, or approaching it more or less closely.

" But we do not always witness this restoration of the natural actions upon the removal of disturbing contingencies. Many functions, if suspended for a time, are not likely to be resumed, even though the organs engaged in their performance have escaped all lesion,

" Asphyxia continuing for a brief period, no matter how produced, is fatal; the heart refusing to resume its suspended systole and diastole.

Respiration being checked for a time, whether by drowning or occlusion of the mouth and nostrils, or compression of the trachea, the subject will breathe no more. The impediment to the performance of any function always offers a risk proportioned to its protracted duration. Even a transient interruption to some of the more essential of the vital processes may be very promptly destructive by the peculiarity of the impressions sympathetically diffused. Thus, mere concussion of the brain, sometimes by a blow or a fall, or as in some apoplexies and certain cases of strong mental emotion, a mere modification of its vascular condition, without any perceptible lesion, shall determine immediate death. Thus, too, a blow upon the pit of the stomach kills instantly by an undefinable impression upon the great sympathetic, under which the whole system at once succumbs without a struggle. Prussic acid applied to certain surfaces, as the eye and the tip of the tongue, produces an extinction of life similarly quick—perhaps by a similarly indescribable impression, conveyed with lightning speed throughout the entire organism.

"In disorders of structure, everything must depend upon the nature of the functions interfered with, whether immediately necessary to the preservation of life or not; whether the part is irritable or indolent; whether comparatively insulated, or closely bound up with other organs by intimate and extended nervous relations. If, for example, the thyroid gland becomes affected with bronchocele, little or no injury accrues to the general health, unless the goitre grows to so large a size as to interfere mechanically with respiration or deglutition, or with the cerebral circulation.

"But when the heart is the seat of organic derangement, the whole body must suffer, on account of the universal dependence of every part upon a uniform and regulated circulation; while its indispensable but now ungoverned action, becomes self-irritating and self-exhausting. Thus it is also with the stomach and intestines, kidney and bladder, whose duties admit no interval, whose sympathies know no repose.

"Morbid agents, the causes of disease, differ among themselves, not only by the tenacity or permanence of their impressions, but by its specific or characteristic peculiarity in the production of given results. Scrofula is equally tenacious with carcinoma; but most of the structural alterations it gives rise to are compatible with the continuance of life; that is, they are only fatal by degree. Not so with cancer, which effects such alteration of the condition of the part it occupies, as must essentially destroy the body to which it belongs. Hence, we term it and the analogous affections, fungus hæmatodes, &c., malignant; and the appellation is deserved.

"Under ordinary circumstances, a part takes on again its usual and healthy action, when the causes which disordered it are timely removed, with a readiness proportioned generally to its vascularity, because this is almost an exact measure of the force and fulness of its vitality, and of the rapidity with which it goes throngh the physiological alternations of waste and supply, or renovation; to which,

and not to any new or separate principle—a distinct *vis medicatrix*, I ascribe unhesitatingly all processes of cure or restoration.

"Disease is by no means, nor can we conceive of it as being a natural condition of the animal body; nor is it the product of any spontaneous action of any organ or system of parts, or of any one of the vital forces, so called; neither can any separate natural provision be shown to be made for its removal or arrest, and most surely not, as has been imagined, by the very processes in which it consists. It is 'a forced state,' as Brown and Rush have pronounced life itself to be; not only occasioned by, but dependent upon the presence or influence of some special agent, interfering, in its own definite mode, with the regular play of the organization by which the functions are performed. This cause ceasing to act, the disease produced by it necessarily comes to an end, and the train of natural and healthy movement goes on again; but if the influence of the cause continues permanent, the disease will continue. Hence must ensue disorganization and death, in the part affected, if the disorder be merely local; if general—systemic, universal, or what Symonds calls 'somatic'—death must be the consequence."

In the second part of the book, to use the author's own words, "are briefly discussed—

"The character, seat, diagnosis, prognosis, causes, and results of the varied forms of disease, and of individual examples separately and in detail; their treatment and cure, comprising the whole management of the cases, as well as the administration of medicines; hygienic measures, relevantly applied for the protection of the general health, and prophylaxis, or the preservation of the individual."

It consists of six sections:—1. Diseases of the circulatory system; 2. Diseases of the digestive system; 3. Diseases of the respiratory system; 4. Diseases of the sensorial system; 5. Diseases of the motory system; and 6. Diseases of the excernent system. We cannot speak in as favourable terms of this part of the volume as of the first. Many important diseases are passed over with very little notice; others are omitted altogether; and all are detailed too much with reference to the peculiar features which they present on the American continent, and therefore the descriptions are not adapted for the European student unless his intention be to obtain a special knowledge of disease as it there appears or may be there modified.

On the whole, however, we can strongly recommend Dr. Dickson's work to our readers as one of interest and practical utility, well deserving of a place in their libraries as a book of reference; and we especially commend the first part as pre-

senting an admirable outline of the principles of medicine. We cannot, however, conclude without congratulating our American brethren on the number of *original* works on the several branches of medicine which have within the last few years been published by them. They are, we rejoice to say, no longer content with the mere reproduction of the writings of British medical men, but are now rapidly establishing a valuable medical literature of their own. This change induces us to hope that they will lend their influential aid in endeavouring to obtain a fairly reciprocal international copyright Act, and put a stop to the fraudulent rapacity of their publishers and booksellers, who even at the present time seize with unblushing dishonesty on the products of our brains, and turn them to their own account, without any consideration for either the feelings or the pockets of the original authors.

On Unsoundness of Mind in its Medical and Legal Considerations. By J. W. HUME WILLIAMS, M. D. London: Churchill. Dublin: Hodges, Smith, and Co. 1856. 8vo, pp. 238.

BEFORE proceeding to notice this recently published volume, we may observe that its contents have, for the most part, already appeared in our pages, in the form of distinct essays. Now, however, that they have been collected together, revised, and added to, we feel bound to offer our opinion as to their merits.

The author has, we observe, very appropriately and with good taste, inscribed his book to Dr. Winslow, so eminent for superior attainments in his specialty, and "whose close investigation of the jurisprudence of insanity and of mental diseases generally," as Dr. Williams justly states in his Dedication, "has pre-eminently contributed to the present high position of British psychological medicine."

Five distinct essays are comprised in this valuable book of Dr. Williams. In the first are discussed the essential difference between Medicine and Law in their estimate of insanity and crime; the diversity of legal opinions respecting what constitutes irresponsibility; conflicting views on the pathology of mental diseases; value of pathological changes; views of Ellis, Willis, Winslow, and Cheyne; errors of the Bar respecting medical opinions, &c., &c. In the second essay of the series monomania in its protean forms is fully and ably considered. The third essay is devoted to moral insanity, and its several intricate phases. Essay the fourth treats upon "impulsive

insanity," in which the suicidal and homicidal proclivity is embraced. And the fifth, and last, has reference to the partial responsibility of insane convalescents, separate institutions for lunatics of criminal dispositions, &c.

Thus it will be seen that the author has taken a wide and an important field for discussion, and the manner in which he has acquitted himself affords to us full proof of his having brought to bear on the subject great powers of reasoning, combined with no inconsiderable amount of ability and practical acquaintance with a confessedly difficult theme in all its bearings and relations.

The phases of mental derangement, as here examined and treated of, present subjects of study of the greatest interest, not only to the profession, but to all who are interested in the now considerably cultivated science of psychology; nor is it the least merit of Dr. Williams, in the treatise before us, that he has to so large an extent divested it of scientific and conventional phraseology as to render it accessible to the general reader.

The appearance of this volume is indicative, we may hope, of the progress, in a true and right direction, of public opinion on the subject of medical jurisprudence as applied to insanity, supposed or real. That such an improvement was necessary will be doubted by none who are acquainted in the least degree with those vexed questions which for a long series of years have been continually presenting themselves to the minds of all parties concerned in adjudicating on cases involving the question of soundness of mind in our Law Courts. It is full time that some definite principles should be ascertained and laid down on those points, when we find, as unhappily there is little difficulty in doing, the most opposite principles enunciated from the legal Bench, as well as taken up and argued on by contending counsel. Thus, as our author states, we have, so recently as in the year 1850, one judge ruling that "there may be mania without delusion," while another, in the year preceding, in his charge to a jury, states that, "to say a man was irresponsible, without positive proof of any act to show that he was labouring under some delusion, seemed to him to be a presumption of knowledge which none but the great Creator himself could possess." Far more philosophically correct, certainly, are the observations of Lord Brougham in reference to this point, as thus given:—

"If the being or essence which we term the mind is unsound on one subject, provided that unsoundness is at all times existing on that subject, it is only sound in appearance, for if the subject of the delusion be presented to it, the unsoundness of mind, as manifested by

believing in the suggestions of fancy as if they were realities, would break out; consequently it is absurd to speak of this as a really sound mind—a mind sound when the subject of the delusion is not presented—as it would be to say, that a person had not the gout because his attention being diverted from the pain by some other powerful sensation, he for the moment was unconscious of his visitation. It follows from hence that no confidence can be placed in the acts, or in any act, of a diseased mind, however apparently rational that act may appear to be, or may in reality be."

Let each profession, the Medical and the Legal, choose and maintain its own particular province, and it will be better for all the parties concerned. Such is the opinion of Dr. Williams, and one in which we entirely concur:—

"We are satisfied that much of the diversity and uncertainty of opinion which pervades medical writings and characterizes legal doctrines is owing to the identification of Physic with Law. Insanity is, or is not, a disease! If it is not a disease, the law is strangely defective, since, as Dr. Forbes Winslow, in his admirable writings on this particular subject, has so clearly and ably shown, no two Chancellors have agreed respecting its constitution; and not only this, but they have in their separate opinions, with considerable acrimony, criticized each other's judgments."

We have long thought, and after the perusal of Dr. Williams's book are prompted to give more decided expression to the conviction, that on the kindred subjects of moral responsibility and mental derangement some well ascertained limits to all questions likely to arise might be found: "Quos ultra citraque nequit consistere rectum." Such a process of limitation is well defined by the author:—

"The question of punishment is, we conceive, merged in that of volition and health. If disease, as contradistinguished from vice, be present; if insanity, the result of abnormal psycho-physical action, as distinguished from that unsoundness of mind and depravity of morals which are characteristic of the operation of sin and crime, be allowed to exist, we confess our inability to propound any rules by which the creature could be thus constituted the avenger of his Creator; or, allowing the doctrine involved in such a practice to be correct, we know not any means that should determine with certainty the extent of such morbid operations, and thereby assign a limit to our endless conjectures.

"Sooner, to use the words of Ideler, 'could we see upon the disturbed waters the clear image of what surrounds us, more easily calculate the status of every wave, than find in the ebb and flow of such thoughts the mirror of our relation to nature, or the law of our changing emotions.'"

In carrying out the details of his subject Dr. Williams ably discusses some of the most interesting appearances and developments of mental disease—such as monomania, religious delusions, and impulsive insanity. All these manifestations of mental alienation are illustrated by very pertinent examples and details, conveyed in philosophic language, partaking, perhaps, a little too much in passages here and there, of a metaphysical style of argument.

We strongly recommend the perusal of this monograph to all psychological practitioners, as well as students, with every confidence that none who take it up, and give it the perusal its important subject demands, will lay it down with a feeling of disappointment.

In conclusion, we may state, that these essays, besides being now collected into a permanent and much more comprehensive and at the same time condensed form, have another new feature to render their embodied state of increased value, which is, that of a copious and well arranged index, an addition that greatly enhances the value of the work by thus facilitating reference to its important and interesting contents.

Berättelse om Sjukvården vid Kronprinsessan Lovisas Vårdanstalt för Sjuka Barn, från d. 6 Febr., 1854, *till och med d.* 31 *Dec. samma år, afgifven af* Professor Gust. von Düben, Andre Läkare vid Vårdanstalten. Stockholm : tryckt hos Eric Westrell. 1855. 8vo, pp. 69.

Report on the Care of the Sick in the Crown Princess Louisa's Institution for Sick Children, from the 6th of February, 1854, *to the* 31*st December in the same year, inclusive.* By Professor Gust. von Düben, Second Physician to the Institution.

Dublin has been long celebrated for the number and variety of its hospitals, and in fact they provide for almost every phase of physical suffering. We have our general, our fever, and our surgical hospitals; we still retain, and we trust shall continue to retain, our Lock Hospital and our Hospital for Incurables; and in the great Lying-in Institution, of which we are so justly proud, its founder raised to his memory an imperishable monument, doing good through many ages. One thing we want, and in this our admirable and energetic friends the Swedes have anticipated us. The Crown Princess Louisa has added lustre to her coronet and conferred honour on her

rank, by lending her name to the Hospital for Sick Children; and while we congratulate royalty on the fact, we equally rejoice to see literature represented in the Board of Direction over which her Royal Highness presides, in the midst of a long catalogue of Countesses and Ladies, in the distinguished name of Fredrika Bremer.

The Institution, which is intended for the reception of children between the ages of two and eight years, is supported by subscription, 8,500 riksdaler banko (£708 6*s.* 8*d.*) having been bequeathed by Dr. Pehr Elmstedt as an endowment.

The care of the sick is under the direction of Professor M. Huss, the founder of the hospital, who visits it on certain days in the week. The author of the Report, Baron Gustaf von Düben, is Resident Physician, and as such goes round the house morning and evening. To him are entrusted the immediate management of the sick, the care of the books, &c. Professor C. Santesson has undertaken the office of Consulting Surgeon, and in this capacity has afforded his assistance to the author.

The wards are three larger and two smaller; all are of about 12 feet in height, and afford from 635 to 820 cubic feet of air to each patient. The courtyard is cleared and levelled, and in summer contains a tent for the children to remain in during the day.

The amount of air mentioned above may appear to be insufficient; but the convalescent children and those not confined to bed have the opportunity of remaining during the day in a large reception room; and besides, the air is constantly renewed in the wards by means of a ventilating apparatus consisting of a tube passing through the stove, while the exhausted air is carried off partly through tubes opening into the chimney, and partly through tubes which are continued up to ovens in the garret.

Outside the wards is a bath-room, with a larger and smaller bathing-tub, and apparatus for douche and vapour baths. By means of a forcing-pump in the kitchen, which is easily worked by one person, water is sent up to the reservoirs over the douches, which by a system of pipes supply all the rooms with water through a cock in each room.

Separated by walls from the above-mentioned wards, and provided with a distinct flight of stairs, baths, &c., are two rooms for contagious diseases; the dimensions of the smaller being about 2560, those of the larger about 3140 cubic feet—the former intended for three or four, the latter for four or five patients, accordingly affording 853 or 640 and 785 or 628 cubic feet of air for each child.

The beds are entirely of iron, and are six feet long by three broad, with iron spring bottoms. The mattresses are in three parts, stuffed with hemp-harl. The covering consists in summer of cotton, and in winter of woollen felt. The number of beds which can at present be supported is 27; but as they are very long, as has just been mentioned, a greater number of patients can be accommodated, by placing, when the nature of the illness admits of it, two little children opposite ways in the same bed—each, however, in his own sheet.

Three meals are given daily, and between them bread is distributed. The food is constantly changed, and no definite quantity is given out, but, provided illness does not forbid it, the children get as much as they wish.

The average daily number of patients during the eleven months has been 29·8. Each patient has, on an average, remained 48 days in the Institution; including those who died, this average becomes 41·8. The longest stay was 214 days, the shortest, 2. The length of stay in the Hospital is considerable, in consequence of the large proportion of eruptive diseases and of affections of the eyes and bones admitted, these being, for the most part, tedious ailments.

The Board of Direction has limited the age of reception to between two and eight years, the Institution being at present unable to afford the cost of maintaining a sufficiently numerous staff of nurses to admit of their taking in children under two years. A discretionary latitude is, however, given; and, under peculiar circumstances, thirteen children, aged between one and two years, and twenty-two above eight years of age, were received into the hospital during the eleven months. Fourteen pay patients, belonging to the lower ranks of the middle class, were also admitted.

The total number of admissions was 202. The mortality was 35, or 17·32 per cent. This high rate is shown to depend on the very dangerous nature of the diseases taken in.

Notwithstanding the favourable circumstances of the Institution, and the great attention paid to hygienic measures, several epidemics prevailed during the year, some of which at the same time existed in the city, while some were confined to the hospital itself.

Measles prevailed generally in Stockholm at the close of 1853 and the beginning of 1854; and cases of this disease were admitted immediately on the opening of the hospital. It is interesting to recollect that the same disease was at the very same period unusually rife in this country, showing how extensively the epidemic constitution may at times be diffused.

This is a point which we should hope will be more fully investigated than has hitherto been the case, not only through the agency of such bodies as the Epidemiological Society of London, but also through that of medical associations in general, who may be induced to follow the good example set them by the Swedish Society of Physicians, in discussing at every meeting the *constitutio epidemica* of the day.

The admissions of measles were 10; viz., 7 in February, 1 in March, and 2 before the 10th of May. Of the patients previously admitted for other affections, 27 took measles, the last case commencing on the 16th of May.

Diphtheritic exudation on the mucous membrane of the mouth and intestinal tube prevailed epidemically from the 12th of March, between which day and the 14th of April 30 patients were attacked with the affection, 18 of that number suffering at the same time from measles.

Cholera began to appear epidemically at Kungsholm about the middle of September. Of 30 patients in hospital, 12 were attacked with it, of whom 3 died.

In the commencement of November thoracic inflammations were prevalent, 17 out of 30 patients suffering from such affections. The latter comprised 2 cases of pneumonia, 10 of simple tracheo-bronchitis, 2 of tracheo-bronchitis complicated with angina, and 3 of capillary bronchitis. The epidemic appeared to have terminated on the 20th of November.

Immediately after, the diseases of many children admitted began to assume an asthenic character, which continued to prevail until the end of December. This character in part coincided with the epidemic constitution contemporaneously existing without the house, but was also in part peculiar to the hospital, showing incontestibly the risk of crowding sick children together.

These epidemics essentially contributed to increase the mortality, and the combination of measles and diphtheritis was particularly fatal, as it alone may be considered to have carried off eight patients.

The author proposes to substitute the term kakotrophia for the word atrophia, ordinarily used, because the morbid condition indicated is a limited, or primitively faulty development, and not properly a mere retrogression. The cause of the disease is probably sometimes to be sought in hereditary debility, perhaps owing to syphilis in the parents, or to accidental circumstances occurring during pregnancy; but the affection would appear to be most frequently the consequence

of insufficient or improper nourishment, especially during the first year of life.

As a proof of the carelessness of parents in that important particular, it is mentioned that of the children admitted 13 had never been vaccinated. The operation was in all these cases successfully performed in the Hospital.

It now only remains for us to observe that, as we should have expected from what we know of the zeal and ability of its author, the Report we have been noticing is well and clearly drawn up, and contains in ample Tables much valuable statistical information. As we believe, however, that it is only the first of a series, we have been more anxious to give on the present occasion some, as it were, introductory account of the arrangements of this interesting Institution, than to enter fully into the details of the cases and treatment described. In conclusion, we hope we may be permitted to find upon our table in future years many similar Reports from the pen of the Baron Gustaf von Düben.

A dispensary for children, attached to the hospital, is open on two days in the week, in the attendance on which Dr. Abelin assists. It is to be expected that a little experience in the working of the hospital will enable the medical attendants to remove the causes of the epidemic influences, in reference to which the author has used an expression, quoted above, which might lead one to suppose that he had, to a certain extent, advanced an argument against the advisability of the establishment of hospitals for children.

Rättsmedicinsk Kasuistik; eller Redogörelse för de Rättsmedicinska Undersökningar, som blifvit verkställde vid Kongl. Carolinska Medico-Kirurgiska Institutet. Af Dr. Alfred Hilarion Wistrand. I och II. Stockholm: Joh. Beckman. 1854. 8vo.

Medico-Legal Cases; or, an Account of the Medico-Legal Investigations which have been performed at the Royal Carolinean Medico-Chirurgical Institute. By Dr. Alfred Hilarion Wistrand. Part I., during the year 1850: pp. 18. Part II., during the course of the years 1851, 1852, and 1853: pp. 64.

The Chair of Medical Jurisprudence was founded in the Carolinean Institute in the year 1841, and was first occupied by Professor Berg, now Medical Councillor; since the beginning

of 1850 it has been filled by the present Professor, Dr. A. H. Wistrand. The mode of instruction is, in accordance with the directions issued in reference to this Chair by the Royal College of Health, eminently practical; the post-mortem examinations are performed by the pupils under the direction of the Professor; some of the students take notes of the appearances observed, at the dictation of the operator, and a copy of these notes is always entered in a journal. To practise them in the correct estimation of the importance and significance of the several phenomena observed, not only the operator, but also every student present at the autopsy, is required to produce at the next lecture evidence formally drawn up and based upon the notes taken at the post-mortem, which testimonies are then, if time permits, handed in, compared, and scrutinized.

When there is no opportunity of performing autopsies or other medico-legal investigations, the class is either conducted through an examination of evidence not previously brought forward as to post-mortem appearances observed at former lectures, or experiments are made to practise the pupils in the processes recommended for the detection of the poisons most commonly met with, and in the use of the most certain tests of their presence.

It would appear that all dead bodies found under suspicious circumstances are sent to the Institute for examination, by which arrangement the Professor is supplied with ample materials for the practical instruction of his class. The medico-legal investigations performed at the Institute during the year 1850 were 40 in number, consisting of 34 examinations of bodies (medico-legal inspections and autopsies); 2 examinations of suspected human remains (fragments of bones and a portion of a funis); 2 examinations of suspected spots on clothes; and 2 of suspected poisonous substances. Of the 34 inspections and autopsies, 26 were performed at the request of the police authorities, and 8 were held on the bodies either of those whose friends desired an examination, or of some who had died in the hospitals of the capital. Of the entire number, 7 were held on the bodies of fœtuses and children under one year, of which 4 were of the male and 3 of the female sex; and 27 on those of adults, of whom 22 were men, and 5 were women.

The author next gives the particulars of the cases above enumerated.

The medico-legal investigations held during the years 1851, 1852, and 1853, were 138 in number, 123 being examinations

of dead bodies; 12 of suspected poisoning; 1 of human remains, and 2 of suspicious spots on clothes. The particulars of most of these cases are given under the several heads to which they properly belong; and while we are unable to follow the author through the details, we cannot conclude this brief notice without awarding him our praise for the industry and accuracy we have so often had occasion to commend in our Swedish brethren, and for the manner in which he is now, in these yearly Reports, placing on record a large amount of valuable statistical information. We would also call the attention of our readers to the particulars we have mentioned, as additional proofs of the co-operation afforded by the Swedish Government in the promotion of medical science; an attention to the interests of the profession and of humanity which we have already often alluded to as exemplified in the awarding of travelling stipends to physicians, and in the encouragement afforded and the deference shown to the Swedish Society of Physicians.

Climate, Weather, and Disease: being a Sketch of the Opinions of the most celebrated Ancient and Modern Writers with regard to the Influence of Climate and Weather in producing Disease. By Alfred Haviland, M. R. C. S. E., &c. London: Churchill. 1855. 8vo, pp. 110.

There is something in a name; and now that the rage is for travelling, change of air and of scene, the present work is peculiarly happy in its title, and has appeared most opportunely. The author prefaces his observations with introductory remarks on the advantages attendant on the study of ancient authors and medical classics, and, passing on to the subject of climatology, proves how intimately this inquiry is associated with the history of man, and how their diseases and morals are affected by it. In this age of sudden transitions from one locality to another, we can form a faint idea of the effect of change of climes, manners, &c.; but the emotions consequent on a more striking contrast are thus fancifully described by the author:—

"Could a man be suddenly transported from the snowy pole to the glowing zone, what strange emotions would arise on beholding the immense contrast! Assuredly would he think, had he not witnessed the gradations betwixt these extremes, that he had been wafted to another world, for how could he, in his ignorance, reconcile the gorgeous colours of the plants, insects, and animals of the zone—its cloudless sky, its glowing sun, the perfume of the

flowers in the air, and the activity of life—with the dull, gray, monotonous north, where vegetation is at its lowest ebb, and man, with his attendant animals, slow, blunted, and benumbed? Yet such a contrast would he behold, and such is the effect of climate. But with all this vast difference the inhabitant of one region envies not his remote brother. The Esquimaux would not change with the Indian, for each is adapted to his peculiar circumstances; and so perfect is the harmony of nature, that general discontent against the Great Disposer has no existence in the minds of His creatures, whom He has distributed as it seemed best to Him, and whom He has made to feel a kind of happiness in their lot, which unanswerably proves His infinite benevolence."

Hippocrates, unrivalled as an authority in his generation, stands deservedly high with our author as a climatologist, his great merit consisting in giving his readers the benefit of his experience, without an over-dose of theory, his aphorisms having laid the groundwork for the study of statistics. The Iatro-meteorology of Hippocrates, his opinions on the value of the study, and the *καταστασις τῶν ορεων*, or Constitution of the seasons, which he divides into three, and to which he adds the Pestilential Constitution—next engage Dr. Haviland's attention.

The observations grouped within the first three Tables were made at Thasos, now Tasso, an island in the Grecian Archipelago, remarkable for its fertility, situated about the isothermal line of 58° Fahr. In autumn the prevailing diseases seem to have been cynanche parotidea and inflammation of the testicles; in winter, cynanche; in spring, fever, unattended with hemorrhage, never fatal; in summer, phthisis, acute and chronic, with fevers of the intermittent type; and in autumn, phthisis and fevers, the former very fatal. In applying this Table to our climate with reference to consumption, we find the following remarks:—

"In England we learn from the statistical returns that the spring is the most fatal to consumptive patients, whether male or female; but with regard to the other seasons there is considerable variability. For instance, suppose we take the seasons of 1838 in the order of their fatality to males, they would stand thus:—Spring, 1137; winter, 1048; summer, 968; autumn, 904. To females, spring, 972; summer, 937; winter, 896; autumn, 825. Then, again, although the spring invariably takes the lead, the other seasons change places with each other from year to year; and, what is remarkable, this inconstancy does not seem to be dependent upon temperature, as we shall presently see. In the returns for 1853 the following statistics on deaths from consumption appear:—Winter, 1872; spring, 1971; summer, 1745; autumn, 1914.

The order of the fatality in the years above quoted would, therefore, be:—

1838—Males,	1, spring;	2, winter;	3, summer;	4, autumn.
1838—Females,	1, spring;	2, summer;	3, winter;	4, autumn.
1840—Total,	1, spring;	2, winter;	3, summer;	4, autumn.
1853— ,,	1, spring;	2, autumn;	3, winter;	4, summer.

So far, therefore, as seasons are concerned, the above Tables prove that spring—i.e., April, May, June—is the most inimical quarter to phthisical patients, and that probably autumn—October, November, and December—the least so. In London, at least—if not throughout England generally—the spring is undoubtedly the most obnoxious to consumptive cases; and this statement is in accordance with the experience of those physicians who have opportunities of seeing the rise, progress, and end of many hundred of phthisical cases during the year."

His next remarks are on temperature, and its effects on thoracic diseases in general; and he concludes his observations on the first constitution by subjoining a Table showing the duration of phthisis in 215 fatal cases, published in the Report of the Hospital for Consumption for 1849.

The second Constitution of Hippocrates is prefaced by contrasting this year and the one just discussed. In the first the dryness of the air and a southerly aspect of the wind prevailed. The second was characterized by moisture, frequent rains, and a northerly direction of the wind. The diseases of the first Constitution being those of the respiratory organs; whilst those of the second were connected with the organs of digestion, besides fever, which seems to have originated in abuse of alcoholic liquors, owing to the fruitfulness of the vineyards. Ophthalmia prevailed in the spring of this Constitution. Dysenteric affections, tenesmus, and diarrhœa in summer; and in autumn strangury, bilious vomiting, and fevers of various sorts, rashes, and convulsions. Dr. Haviland dilates on the dysentery and diarrhœa, and their relations to temperature; touches on the fever, which was of the intermittent type; and at page 42 makes the following observations:—

"Have not those nations excelled most in arts, sciences, and war, whose inhabitants have been ever subject to variability of climate, where death makes no distinction of persons, where all classes and all temperaments are, at one time or another of the year, liable to the invasion of the particular diseases of the well-marked seasons? A nation that has a well-defined climate, with well-defined diseases dependent upon a certain train of meteorological causes, can never rise to so great a height in psychical development as those whose inhabitants have to contend with the vicissitudes of weather.

We know that certain temperaments are more liable to take on one class of diseases than another. Were the climate of the country to which any set of people had migrated only inimical to a certain set of diseases, then should we find that those who remained would resemble each other, and give a certain character to their posterity, who would possess in the execution of their affairs a peculiar mental bias, which would characterize them as a nation, but never raise them to pre-eminence in the world's fame for a continuance. Whereas in a climate such as that which Greece enjoyed, there was every element for keeping up the balance of mind and body among the inhabitants. Variable, like our own, during one season the hopeful, the imaginative, the ardent were assailed; at another, the thoughtful, grave, and phlegmatic: so that a balance was struck to a certain extent at the end of the year; and the next generation did not suffer, but rather improved, under the skilful pruning of death. Happy is it for England that she has the like advantages, only to a greater extent; her inhabitants are variable as her climate, and it is this amalgamation of all shades of mental and bodily temperament that has made the Englishman so far superior to the other citizens of the world."

Such are the original conclusions deduced by our author from the similarity of the Grecian and English climes, and in which there seems to be much truth.

In connexion with the subject of diarrhœa, and under the head of temperature, the observations as to the effects of heat on vegetable matter, cold and wet, warm and dry climates, and their influences on this disease, are well worthy of attention, and perfectly in accordance with our own views.

In the third Constitution, with northerly winds, cold, and snow, paraplegia, hemorrhage, and diseases of the bowels, prevailed during winter. In spring, with violent northerly storms, fever, difficult parturition, abortions, &c. In summer, with slight rain, and great cold till the dog-days, ardent fevers, phrenitis, and hemorrhage; and from the dog-days till autumn, —continued drought—swellings about the ears. We perfectly subscribe to the author's views as to the influences exerted on fevers and zymotic diseases by the abuse of alcoholic liquors. On the subject of abortion Hippocrates believed that if the winter be southerly, showery, and mild, the spring northerly, dry, and wintry, those women who expected to be confined during spring are apt to have premature labour; and in continuation of this we find the following:—

"Agriculturists have at some seasons observed that cows are apt to slip their calves more frequently than at others; and some authorities affirm that it is generally most frequent after the prevalence of wet weather, which is also conducive to the production of ergot in the different grasses on which they feed."

Again:—

"During a very wet season at Carrington, some few years ago, when there was a great deal of ergoted wheat in consequence, it was observed that for several months hardly any of the women went their full time, and there were numerous miscarriages."

Dr. Haviland's "Modern Observations" we must call irrelevant, to say the least of them. Commencing with the weather, and its effect on vegetable matter, he then adverts to the curse on Adam and Eve, and draws religio-moral conclusions on man's immortality; passes on to decayed vegetable matter and its effects as a fever-germ; describes the climate of the Delta of the Ganges; thence to Ceylon; and last, though not least, makes some brief observations on the effects of forests and water on miasmata, which latter contrast favourably with the antecedent portion of this section. The iatro-meteorology of the third Constitution is concluded with remarks on small-pox and the exanthemata.

The review of the Pestilential Constitution is prefaced with remarks on the climate of ancient Greece and the aspect of its cities, &c., followed by a Table of the weather and various diseases. As a general rule, the season was damp and the wind southerly. Erysipelas of a malignant type prevailed over the spring, summer, and autumn; consumption proved fatal in autumn and winter. Hippocrates in his description of this erysipelas states, that when it attacked the head the whole of the hair fell off from the scalp and the chin: the bones were exfoliated and exposed; but wherever suppuration was established the majority of cases were saved. Our author institutes a comparison between the statistics of erysipelas of late years and what Hippocrates has observed. Rain, moisture, and south wind are deservedly characteristic of the Pestilential Constitution, to which we may safely add calm. On the subject of cholera Mr. Hingeston observed that in 1832 the weather was gloomy and cloudy, and that a calm prevailed, conjoined with an interminable moistness. The "still calm" that prevailed continuously over the months of August and September must be in the recollection of the most casual observer, and during this period the disease was at its acme in this country. Again, on the subject of odours the author states that when the cholera raged at Bridgewater, in 1849, he himself could smell, on coming into the town from the country, a peculiar sickly odour. We cannot go quite so far as to coincide in the assertion that the smell is perceptible on entering an infected town; but most assuredly in the wards of a cholera

hospital or at the sick bed of a cholera patient, the odour is unequivocal.

Ozone next engages the author's attention; his remarks being wound up with an account of the electric condition of the air, comets, meteors, earthquakes, &c., to which are subjoined some valuable Tables showing—

I. Mean weekly average for ten years, from 1844 to 1853, inclusive of phthisis, bronchitis, and pneumonia.

II. Weekly return of same for 1854.

III. Weekly return and mean for ten years of small-pox, measles, scarlatina, and typhus.

IV. Weekly return for 1849 and 1854 of diarrhœa and cholera epidemics.

We have read Mr. Haviland's book with some attention, and, on the whole, consider we have been well repaid. Believing, as we do to the fullest extent, in the value of a knowledge of the early medical classics and climatology, still we are giving a wholesome advice to the author when we recommend that the next edition of his book be still further devoted to a more perfect review of modern climatology, and its influences on the diseases of the present day.

Medicinal-Taxt for Norge, som ifölge kongl. Placat af 10*de November*, 1855, *er gjældende fra* 1*ste Januar*, 1856, *indtil videre.* Christiania, 1855. Trykt hos Brøgger og Christie.

Medical Tariff for Norway, which, according to the Royal Mandate of the 10*th November*, 1855, *is in force from the* 1*st January*, 1856, *until further notice.* Printed by Brogger and Christie. 8vo, pp. 50.

This little work, published by the authority of Oscar, "King of Norway and Sweden[a], the Goths and Vandals," consists of two parts, the first a medical tariff for the guidance of the pharmaceutists of Norway, the second a supplement to the Pharmacopœia recently published in that kingdom. The Royal Mandate prefixed to the volume contains, in addition to the authorization of the tariff, two ordinances, the first requiring apothecaries to inscribe the drawers, vessels, and other repositories in which medicines are kept in the shops, both with the officinal names adopted in the Norwegian Pharmacopœia,

[a] This is an inversion of the King's usual title, as if our Queen were styled in Irish documents, Queen of Ireland and Great Britain.

either at length or abbreviated, and with at least one of the synonyms given in the tariff; the second directing physicians in their recipes to prescribe the medicines introduced into the Pharmacopœia either by the names therein given, or by the synonyms admitted into the new tariff. The tariff itself is divided into four parts: the first contains the prices of the several medicines, simple and compound, by the ounce and drachm[a]; the second, the sums to be charged for the labour of the several manipulations employed in the compounding of prescriptions; the third, the charges to be made for requisites, as bottles, gallipots, &c.; and the fourth, some general directions. Some of the prices set down for medicines are worthy of notice, as compared with those usually received in this country; thus the authorized charge for eight ounces of the yellow and brown varieties of cod-liver oil (Pinguoleum gadorum flavum et fuscum) is not quite $5\frac{1}{2}d.$ of our money; Canadian castor is a fraction less than 1*s.* a drachm; the Norwegian and Russian are each a little less than $5\frac{1}{2}d.$; atropia and aconitina are each about $9\frac{1}{2}d.$ a grain; lactucarium is 1*s.* a drachm.

Among the formulæ given in the supplement to the Pharmacopœia is the following for the preparation of Acetic Ether (Acetas æthylicus):—"Take of highly rectified alcohol, four parts; introduce it into a tubulated retort, and add gradually by small portions at a time, with agitation, six parts of concentrated sulphuric acid. Set the mixture aside for twelve hours, and subsequently add, diligently shaking it, five parts of dry and powdered acetate of soda. Having placed the retort in a sand-bath, adapt to it a receiver furnished with a safety tube, and from the mixture, after having been allowed to stand for twenty-four hours, distil four pints with a suitable heat. With the distilled liquid mix as much of a solution of one part of carbonate of soda in ten parts of water as may be sufficient to saturate the acid, until the ether shall have separated. Let the ether, having been rectified at a gentle heat, be preserved in small phials."

The following form is given for the preparation of a Crystallized Chloride of Iron:—"Take of recently prepared hydrate of iron [hydrated peroxide of iron] four parts; dissolve them in fourteen parts of hydrochloric acid of the specific gravity 1·145. Having evaporated the solution in a sand-bath at 56° (132°·8 Fahr.) to nine parts, set it aside to crystallize. Let the sepa-

[a] The prices are given in Norwegian *Skillinger*, twenty-seven of which are equivalent to one shilling of our money.

rated crystals be placed in a glass funnel and washed with a small quantity of water, after which let them be well dried in a glass or porcelain vessel at a heat not exceeding 40° (104 Fahr.) Let the remaining fluid be for a short time evaporated at the same degree of heat, and let it then be in other respects submitted to the same operations."

The chloride thus prepared is employed in forming the following solutions:—

"*Solutio chloreti ferrici ætherea.* Take of powdered chloride of iron, one part; alcoholic ether, nine parts; dissolve and filter, and keep the solution from the light."

"*Solutio chloreti ferrici alcoholica.* Take of powdered chloride of iron, one part; alcohol of the strength of 85 per cent., nine parts; rub them well together, and keep the solution from the light. Let it be dispensed in a limpid state."

The above preparations might, we think, be with much advantage introduced into the British Pharmacopœias; we have, therefore, translated the Norwegian officinal directions, which appear to us to be not only good, but easy of execution. We cannot say that we altogether approve of the system which prevails in Norway of fixing, by Royal Mandate, the prices of medicines, as these must be continually varying according to the state of the drug market, and from many other causes.

The Diseases of the Rectum. By RICHARD QUAIN, F.R.S., &c. Second Edition. London: Walton and Maberly. 1856. 8vo, pp. 332, with Plates.

TREATISES on this special branch of practice have been so numerous of late years that little novelty is to be expected from the work before us. It is, however, one of the best we have met with on the subject, and its popularity may be judged by the fact that a second edition has been called for within twelve months from the publication of the first. It is written in the form of clinical lectures, and in a pleasant colloquial style. This is wise, where the lecturer is engaged on a well-worn subject. He can avoid the dry detail which would be insupportable if the subject were handled in a systematic manner; and the numerous omissions which would be reprehensible in a set treatise are not merely excusable, but deserving of commendation in a series of clinical lectures. We must not be misunderstood as recommending this form of book-writing indiscriminately to all writers of monographs. Before a man can

adopt it with effect, he must possess extensive practical information and correct powers of comparison, in addition to a good style of composition. Mr. Quain's book gives evidence of his possessing these qualifications, if we except the chapter on fistula, which is misty and obscure, as well as short in proportion to the remainder and to its practical importance.

The following remarks on the natural disposition of the rectum, and its bearing on the development of hemorrhoids, are of value for their minute anatomical accuracy:—

"The rectum is largely supplied with blood. The vessels as they are seen on its outer side are large, and they send branches at intervals through the muscular coat, which ramify between it and the mucous membrane. Independently of their position as regards the coats of the bowel, the arrangement is not the same throughout the rectum. Over the greater part, the arteries and veins, taking both system of vessels as following the same course, penetrate the muscular coat at short intervals, and at once divide into small branches, which hold a transverse direction and form a network by their communications with the subdivisions of other similar vessels. Towards the lower end of the bowel, for the length of about five inches, the arrangement is very different. Here the vessels have considerable length, and their direction is longitudinal. Penetrating at different heights, they are directed in parallel lines towards the end of the gut. In their progress downwards they communicate with each other at intervals, and they are still more freely connected near the orifice of the bowel. In this place the arteries all join by transverse branches of good size. The veins form loops, and inosculate with equal freedom.

"The alteration of the veins from which the hemorrhoidal tumour results, takes place in the loops which they form inferiorly. As would be expected, the change is progressive. At an early stage dilatation occurs, which in one part is gradual, fusiform; in another it is abrupt, starting suddenly out from the end of the loop into a rounded pouch. A degree of elongation of the looped part accompanies these changes, so that the vessel is lowered beyond its natural level. During these alterations the dilated vein still circulates fluid blood. In a more advanced stage the dilatations are still further enlarged, and they are found to contain clotted blood or fibrinous matter. From the aggregation of veins thus dilated in different ways and in different degrees, loaded also with blood, or one of its elements more or less solidified, the hemorrhoidal tumour is formed. The rounded masses which fringed the end of the rectum in Plates III. and IV. were soft and pulpy, and they appeared on section to be no more than coagulated blood, which, however, did not escape, and did not admit of being turned out of the general investment, as it would be if the whole were blood. When ravelled out as far as could be done, and examined with a lens, the swellings

were recognised as consisting of veins, looped and dilated in the manner before mentioned. They were found to be an extension of the veins above them, which were themselves enlarged, tortuous, and thickened throughout."

Mr. Quain views habitual constipation as the cause of hemorrhoids in a different light from what is commonly done. He considers that the sluggish action of the liver retards the venous circulation, and causes turgescence of the veins of the rectum, and that a permanently dilated condition is set up in them by this deficiency of vital action rather than by the mechanical pressure of slowly moving fæces. While we must acknowledge his correctness in drawing attention to this vital cause of the affection in question, we deem it needful to add, that two things are necessary to produce an inflamed varix in this situation as elsewhere—namely, dilatation from obstruction, and irritation either from mechanical injury or from circulation of deteriorated blood. Mere obstruction will produce a dilated condition of the veins of a part; but unless inflammation of the coats of the vessel be superadded, the removal of the obstruction is followed by a gradual subsidence of the dilated condition. We believe that the most active exciting cause of inflammation in the dilated vein of the hemorrhoid is the direct pressure of hard masses of fæces. If any one will carefully note the symptoms that attend the development of piles, he will soon be convinced of this, especially if the pile be solitary and small. In this case severe irritation and sharp pain are constantly caused by the pressure on the rectum of small dry scybalæ, which are quite inadequate to cause obstruction, but capable of causing much irritation. The passing of these is followed by immediate alleviation of suffering.

Mr. Quain's operative practice in the case of hemorrhoids is the same as that of all modern surgeons of note—namely, ligature for internal, excision for external piles. To prevent hemorrhage he has devised a pin, "short, blunt at both ends, with a movable point like the hare-lip pin formerly used, and a hole or eye at one end into which a thread is inserted to assist in the removal of the pin." By inserting this prior to operating, or immediately after, he secures the central artery of the pile, and by a few turns of ligature controls the hemorrhage. He has even ventured on excision of internal piles in some exceptional cases, without fear of terrific and insidious hemorrhage, such as Cooper, Dupuytren, and the older surgeons witnessed. Of the use of nitric acid and cautery by the galvanically heated wire he says little, having apparently not tried either in affections of the rectum. He speaks of them

with favour in certain cases of nævus, but whether he means to apply the term to any form of hemorrhoid is not clear.

The chapters on painful ulcer, stricture, cancer, are good, but destitute of novelty. In that on pruritus ani no notice is taken of the affection being caused by the use of fermented liquors, probably the most frequent agent in its production.

Mr. Quain has met with two examples of the villous tumour—one in the rectum, and one in the bladder. This is classed by Rokitansky under the head of cancer (zottenkrebs) perhaps too decidedly. Mr. Quain's cases presented no appearance of cancer, either symptomatic or anatomical. The growths consisted of enlarged villi, covered with cylindrical epithelium; and from these specimens he quite too dogmatically contradicts the "distinguished morbid anatomist of Vienna," and denies the cancerous nature of villous tumours in toto. That the specimens he encountered were not cancers may probably be true; but any one who reads Rokitansky's description of the disease, or Mr. Paget's, or who has examined the villous tumours of the bladder, will scarcely agree with him. Mr. Quain lays stress upon the absence of general poisoning; but it is a curious and as yet unexplained fact that those cancers in which the vascular element predominates are generally, if not always, solitary. Into this question, however, this is not the place to enter, and we have only remarked on it lest Mr. Quain's readers should be misled by the authoritative manner in which he lays down a general law from two cases.

The getting up of the book is unexceptionable; the plates, four in number, are illustrative of the vascular relations of the rectum as connected with the development of hemorrhoids; they are admirable in drawing and colour, and deserve the highest commendation for truthfulness and utility. On the whole, we give in our judgment with the verdict of the profession, which has so soon demanded this second edition.

Observations on the Term of Utero-Gestation, with a View of contradicting the Opinions generally entertained in respect to protracted Gestation, &c. By Charles Clay, M.D., &c., Manchester. London: Renshaw, 1855. Pamphlet, pp. 24.

Dr. Clay believes that he has discovered one great law of utero-gestation, which regulates its duration and explains its variations, and this is the age of the parties:—"The younger the parties concerned, the shorter the term of utero-gestation;

and *vice versâ*, as age increases, the term of gestation is proportionably increased." But we are not to take the age of the mother only, but the mean age of father and mother, allowing something for the earlier maturity of the mother. Thus if the female be 20 and the male 30, the mean will be 25, but Dr. Clay calculates for 24; and in the case of a female of 30 and a male of 20, the result would be 26. "By adopting this simple plan, I was enabled to arrive at a mode of calculating the probable duration of a gestation term as nearly correct as may be."

It is quite possible, nay, we think even probable, that the age of the parents may have an influence upon the duration of gestation, as well as upon the character, bodily and mental, of the child; but we are disposed to think that the data brought forward by Dr. Clay are far too few to decide the point. They consist of about twenty cases, and the respective ages and duration of pregnancy are as follows:—

At	$12\frac{1}{2}$	years, pregnancy lasted	264 days.
,,	15	,, ,,	267 ,,
,,	15 to $15\frac{1}{2}$	,,	267 ,,
,,	16 to 17	,, ,,	270 ,,
,,	19	,, ,,	272 ,,
,,	25	,, ,,	274 ,,
,,	30	,, ,,	276 ,,
,,	35	,, ,,	278 ,,
,,	44	,, ,,	284 ,,
,,	52	,, ,,	290 ,,

Homoeopathiens hufvudläror, med anledning af Dr. P. J. Liedbecks skrift: "Homoeopathiens närvarande ställning i främmande länder (2:a upplagan)," *granskade af D.— Bihang: Upplysningar om föregifna anfall mot P. H. Ling och Svenska Gymnastiken. Ett sjelfförsvar.* Stockholm: Samuel Rumstedt. 1855. 8vo, pp. 110.

The Principles of Homœopathy, investigated by D., with reference to Dr. P. J. Liedbeck's Essay, entitled "The Present Position of Homœopathy in Foreign Lands (2nd edition)," *with an Appendix containing Explanations relating to alleged attacks on P. H. Ling and the Swedish system of Gymnastics. A Self-Vindication.*

The work before us, from the pen of the Baron Gustaf von Düben, is a careful and well drawn up examination of the so-called facts brought forward by Dr. Liedbeck in his defence

of homœopathy. This system of quackery has, however, already received in our pages at least as much attention as it deserves; as affording an additional example of those singular illusions to which the human mind appears to be, from time to time, epidemically liable, the fact of the credulous reception of its mysteries by large masses of the community will, at no distant period, present a subject of historic interest to the contemplation of the student in psychology; but to devote our pages again to a consideration of its principles would be unprofitable in the extreme. We shall, therefore, not at present enter on an examination of the first part of Baron von Düben's work, but content ourselves with remarking that, while it is on its wane among us, homœopathy would appear, from the author's language, not yet to have attained its climax in Sweden, for he says in his preface:—

"From what has just now been stated it will be evident that I expect proselytes to homœopathy in Sweden. There is no extravagant doctrine which has not obtained its adherents occasionally among the lower classes, but most frequently—especially when it is put forward in a subtle and systematic manner—among the higher ranks, and their imitators in the middle class. Most people now smile at the follies of alchemy and astrology, once dominant throughout the world, which, nevertheless, were believed in by, and led captive, the most distinguished genius and learning of ages. We shudder at the trials for witchcraft which, towards the end of the seventeenth century, raged in our own land for nine years, and deprived a large number of human beings of life; we are astonished at the superstition of that time, which went so far that hundreds allowed themselves to be burnt alive on account of their own reports of visits to hell, contracts with the devil written in blood, and so forth; we still express our surprise at this credulity at the same moment that we give unhesitating credence to the artful nonsense of a cheating somnambulist, and faint at the vibrations and creakings we have with our own hands produced in a table. The land where credulous multitudes long made pilgrimages to Kisamor is certainly no sorry soil for homœopathy, and the people which daily and so richly offers to ague-hags cannot deny its mite to the doctrine which is equivalent in value to theirs. It, also, shall be fashionable for a time, like all other human illusions; it would be unreasonable to deny it its temporary toleration; ascendancy in our land it shall never possess so long as science exists and truth prevails there."

In the Appendix, however, we find ourselves, to a certain

extent, personally concerned. An article on Kinesipathy appeared in the Edinburgh Monthly Journal for 1851, which gave offence to the Swedish gymnasts, who did not hesitate to attribute the authorship of the review in question to Baron Von Düben, and him they accused of using the foreign press to calumniate and depreciate native merit; and although he satisfactorily proved that at the time the article appeared he had not been in England for seven years, and that he had then never been in Scotland, and that his second visit to England did not take place until three and a half months after its publication—an editorial note inserted by us in our twelfth volume (page 442) was considered to be conclusive evidence against him, a line of argumentation the illogical nature of which the Baron clearly shows by throwing it into the following syllogistic form:—

"D. is accused of having written an English article in the Edinburgh Monthly Journal; he denies it. But the Editor of the Dublin Quarterly Journal has received a Swedish essay and a letter from D.; therefore D. is the author of the first named article."

We regret that our note should have been employed to cause any annoyance to Baron von Düben; but the absurdity of the assertion that it could have any bearing on the point in question is too glaring to need any comment at our hands.

Die künstliche Frühgeburt monographisch dargestellt. Von ALBERT KRAUSE, ordentlichem Professor der Medicin zu Dorpat.

The Artificial Induction of Premature Labour: a Monograph. By ALBERT KRAUSE, Professor of Medicine at Dorpat. Breslau: Trewendt and Granier. 1855. 8vo, pp. 368.

IN a recent Number of this Journal we reviewed a French work similar in object to the one now lying before us. We then offered, upon the question at large, some general observations, which, however proper to preface a notice of this kind with, would be superfluous on the present occasion.

The artificial induction of labour is, in its practical bearings, a matter of such very great consequence, that it affords us no small satisfaction to see it forming the subject of special monographs, and treated so ably and comprehensively as it has been by a French and German physician, more especially the latter. Professor Krause's book contains a rich mine of

clinical information relative to this operation, aud in fact presents us with nearly all the recorded results of experience in its employment. The immense value of such an accumulation of carefully-collected, well-digested statistical data cannot be over-rated. This feature of the work impresses upon it a very high character, we think, and should draw forth our warm thanks to the author for the perseverance and industry required to make this *resumè* so complete as it is. He adduces the experience of accoucheurs in nearly every part of the civilized world: for we find him bringing forward masses of facts from the obstetric archives of Great Britain, Germany, Holland, France, Belgium, Denmark, Norway, Russia, Italy, and America. These researches, moreover, are brought down to so late a period as the latter end of the year 1854. Such details, as might be expected, occupy a very large portion of the volume, considerably over the half.

The different questions of practical bearing connected with the artificial induction of parturition are separately discussed by Dr. Krause, and each under its proper head. The first section or chapter in the book gives the "definition and object of the operation." He next considers "the conditions, indications, and contra-indications" that demand our attention when deliberating on the propriety of bringing on labour. According to him, the conditions which should be present to justify the performance of this operation are briefly stated as follows:

A. On the side of the mother:—
   1. Sufficient strength to accomplish labour.
   2. Sufficient pelvic capacity to admit of the passage of the infant.
   3. The consent of the patient.

B. On the side of the child:—
   1. Its being alive; and
   2. Its being viable.

These conditions we regard as altogether too narrow and restricted. If acted upon, they would of necessity render this valuable operation inapplicable to two classes of cases,—those, namely, where the pelvic deformity is so great as to be incompatible with the birth of a living and viable child; and, secondly, those cases in which the preservation of the woman necessitates the expulsion of the ovum at any period prior to the seventh month of pregnancy. No doubt, if the preservation of the fœtus be held as the primary and exclusive object of the operation, why then indeed the above conditions

are unobjectionable. But this is to circumscribe very materially its utility, and many eminent accoucheurs of the present day are of the same opinion, and we doubt not that many others will follow their example. The history of the operation for premature labour in France justifies this expectation; for, so lately as in 1827, an unfavourable verdict was pronounced upon it by the French Academy, and yet some of its ablest and warmest advocates are now to be found amongst French obstetricians, and among them stand the honoured names of Paul Dubois and Velpeau, to whose influence French midwifery is mainly, if not entirely, indebted for the introduction of this practice. But to return to the subject of induced *abortion*. So long ago as 1769, the propriety and advantage of resorting to it in cases of extreme pelvic distortion, was suggested by Dr. Cooper. The objections which have been urged against it are, we believe, chiefly of a religious or moral kind, and, therefore, need not be here discussed. But even admitting the validity of these objections, cases do still occur in which, if *abortion* be not induced, both mother and child will inevitably be lost, the state of the former being such that the continuance of gestation would destroy her existence. Many examples of this kind are upon record. Dr. Churchill relates one where the cause of danger, and consequently of inducing abortion, was aggravated and incessant vomiting, whereby the patient was reduced to the very last extremity. The possibility of such a cause for the artificial production of labour is fully recognised by Professor Krause himself, as will just now appear.

With respect to the *indications* for the induction of premature labour, our author thus sums them up:—

A. On the side of both mother and child:—
   The pelvic capacity being reduced to $2\frac{1}{2}$ or $3\frac{1}{2}$ inches.

B. On the side of the mother:—
   Dangerous aggravations of some one of the ailments incidental to pregnancy.

C. On the side of the child:—
   1. Death of the mother.
   2. Habitual death of the fœtus at a certain epoch.

The cause classed under the second of the above indications is a plain admission that a disease of pregnancy may place the woman's life in jeopardy, from which she can only be extricated by relieving the uterus of its contents.

Along with much that is judicious, this chapter also contains a good deal of empty disquisition, and is unnecessarily prolix, the author (like most continental writers) being fond of establishing refined distinctions, and of laying down medical

rules with logical precision. This remark applies equally to the next section, wherein the "therapeutic value of artificial premature labour, and the proper time for its performance," is the subject of investigation. It does not contain anything deserving of particular attention, so we pass it over without further notice.

The only part of the treatise having any claims to originality is that at which we have now arrived; therefore we shall bestow upon it somewhat more consideration than we have done on what has preceded. We find here a description of the author's method of exciting premature labour, with reflections upon its practical value and the prognosis to be drawn from it.

He attaches very considerable importance to the use of certain preliminary measures, calculated to favour the accession and progress of labour. His reasons for this are just and well founded:—

"As we know that the uterus, before the setting in of labour at the full term, sinks, the vagina relaxes and secretes copiously, the cervix uteri softens, its lips open, and slight pains commence, we should, in accordance with the axioms of midwifery, artifically imitate, when possible, the natural process, and endeavour to bring about a similar condition; especially may we then reckon upon a safer and greater susceptibility for the means employed to induce labour. As preparative measures I order warm hip baths, and aloes and saffron, in the following manner," &c., &c.

"In the morning at 8 o'clock, at 5 o'clock in the afternoon, and at 9 o'clock at night, the warm hip-bath is to be used for ten or fifteen minutes, and four of the pills are to be taken immediately after. The object of this is, by means of the moist warmth to draw the blood to the pelvic organs, especially the vagina and lower segment of the uterus, thereby causing turgescence, with relaxation and a copious mucous flow, in effecting which aloes, conjoined with saffron, is a powerful auxiliary. The dose of aloes is to be reduced when the stools exceed two in the twenty-four hours. In primiparous women, and when the vagina is very small, the action of this sort of bath will be more decided and beneficial if, during its use, a small vaginal tube be introduced, to admit the access of warm water to the internal parts."

These observations carry with them great force, sustained as they are both by reason, analogy, and experience. There can be no doubt that preliminary measures, such as those above described, must powerfully contribute to insuring the effect of the direct means employed for exciting parturient

action. This point we strongly urge on the attention of accoucheurs, as it seems one of considerable importance, though little, if at all, noticed by English writers on the subject. It is due to M. Stoltz, of Strasburgh, to say that he was one of the first to insist on the importance of preparative treatment, which he continued during a month before using active means to bring on labour. He recommended baths, bleeding, frictions, and the application of belladonna to the os uteri. If in the course of one or more days a favourable change take place in the vagina, the accoucheur then proceeds to the operation, in the performance of which he is to be guided, says Professor Krause, by the state and condition of the vaginal portion of the uterus, this it is that should influence him in determining upon what particular method he will follow for inducing labour. From this point of view he distinguishes three classes of cases:—

1st. The vaginal portions of uterus easily reached, soft; and, along with this, the os yielding and open.

2nd. This same part long, unyielding, and the os externum uteri closed.

3rd. The cervix uteri not within reach of the finger.

Of these three states it is obvious the first is the most favourable; the third least so.

In the first of these cases, the mode of proceeding recommended by Professor Krause, for the purpose of stimulating the uterus into parturient activity, is to introduce a gum-elastic male catheter, without the stilette, through the os, and for some inches—seven or eight—within it, between the chorion and the anterior wall of the uterus. This must be done cautiously and gently, and even so, a little blood may be discharged. Having passed up the catheter in this way, it is to be left there, and, if necessary, its outer extremity is to be secured to a proper bandage. Should this not excite pain in the course of forty-eight hours, some warm water is to be thrown into the uterus through the catheter, by means of a syringe or glyster-pump, the pipe of which is connected to the catheter by caoutchouc tubing. This injection is to be repeated in some hours if necessary, but it would seem that this alternative rarely fails to fulfil the object in view. It is desirable to avoid breaking the membranes, but sometimes this takes place, in spite of our utmost care.

To meet the difficulties of the second class of cases, where the *portio vaginalis uteri* is yet long, hard, and the os closed, and where the preparative treatment has effected no desirable

change in four days, Professor Krause recommends the use of an instrument for the mechanical dilatation of the os uteri:—

"It consists of a strong spring forceps, of the form and strength of a male silver cathether, whose arms spring asunder, after the drawing back of the ring. The point of the instrument is introduced by means of the right hand through the outer os, fixed by the left index finger in the canal of the cervix, as high as possible, the outer end of the instrument being supported against the hollow of the hand, and the ring pushed a little back. The end of the instrument immediately separates, and the two arms place themselves, by virtue of their elasticity, quite against the fore and hind border of the cervix, so that the instrument retains its position in a secure manner after the hand is withdrawn. The ring is only pushed back so far as to let the blades divaricate two or three lines, and so matters are allowed to stand for ten or fifteen minutes. Within this space of time the walls of the canal become stretched out and O-shaped, as one may ascertain by examination, which will also show the vagina, and especially the glands of Naboth, to be secreting a tough, gelatinous mucus, which escapes from the vagina, and is also seen on the instrument when it is removed."

After the withdrawal of the forceps, the woman is allowed to go about the house as usual. Commonly pains soon begin to be felt in the loins and lower abdomen; the use of the forceps is repeated in the evening, and, if necessary, on the following morning. Should the os be opened to about the size of a halfpenny, and pains not come on, we are then advised to have recourse to internal uterine stimulants, either the catheter, in the manner already described, or uterine injection. For the more part, however, mechanical dilatation is of itself sufficient to awaken parturient action, and only fails in cases of extraordinary irritability of the womb.

The third class of cases are those where the vaginal portion of the womb is out of reach of the finger upon an ordinary examination. Here, our author says, we have choice of two alternatives. One is the elevation (*emporheben*) of the uterus by an assistant, the woman standing erect, whilst the accoucheur endeavours to reach the os uteri, and introduce either the catheter or dilator, in the manner before described. If this object is impracticable, he counsels us to plug the vagina with balls of lint, through the speculum of Segala, and these are to be left in for twenty-four hours. At the end of this time a fresh plug is to be introduced, if there be no change in the state of the parts. This, however, he regards as only a

sort of preparatory measure, for as soon as the os becomes accessible, the dilator, catheter, and syringe are to be brought into requisition.

Such is a brief outline of the course of proceeding recommended by Professor Krause in each of the three classes of cases proposed for our consideration. Although we think he has set a good example, first in making a classification of the cases requiring the induction of labour, founded upon their differences in the physical condition of the organs concerned; and secondly, in exercising discrimination as to the particular means to select for employment in each individual case; still we cannot by any means give our approval to his rules of practice. In his third group of cases the tepid water douche of Kiwisch would be deserving of trial far more than the vaginal plug: and we cannot see why, in these same cases, the sponge tent could not be introduced within the os by the aid of a speculum. We have never met with a case where, in the absence of some morbid condition, the os uteri could not be brought into view by this means.

In the employment of the catheter for detaching the membranes, and for injecting fluid into the uterus, and in the construction of the "dilatorium," Dr. Krause seems rather to felicitate himself as though he had made some new and important addition to our list of parturifacient remedies. But, without wishing to disparage his inventive genius, we are yet bound in justice to state that they possess little, if any, claim to novelty, either in principle or practice. Detaching the membranes was first practised by Dr. Hamilton, but he found the finger sufficient. Zuydhoek, a Dutch accoucheur, subsequently advised that a long wax bougie should be used for this purpose, and Professor Lehman, of Amsterdam, has more recently adopted the same practice.

The injection of fluid into the uterus was tried and advocated very strongly by M. Cohen of Hamburgh, and the "dilatorium" of Dr. Krause is but a modification of the instrument of Busch for effecting the same object. The number of cases in which the practical value of the plan described by our author has been tested would seem to be four, and in one of these it failed.

In the next and some succeeding sections of the book, we find an enumeration and minute description of the various means that have been employed by accoucheurs in every part of the world for the induction of premature labour. The information supplied here is very extensive and very particular.

It is impossible that we can follow him further than to notice his estimate of the uterine douche. This means of exciting labour has of late been so strongly recommended, and seems to possess such pre-eminent advantages, associated with extreme simplicity, that we were not a little surprised to find Professor Krause pronouncing this damnatory judgment upon it, "that it is inconvenient in private practice, uncertain in its results, and dangerous in its operation to mother and child." But we fear its very simplicity prejudices it in the estimation of some accoucheurs. Louis XVI. lost his head for being *too good* a king! Elsewhere the Professor mentions that it has been adopted "even by the cautious (*starren*) Dublin School," a fact that would seem to tell in its favour. He also cites the cases,—published by Drs. Shekleton, Sinclair, and Atthill,—in which it was used in the Lying-in Hospital here, and gives a lithographic drawing of Dr. Sinclair's "continuous douche apparatus," copied from our pages[a].

The third and last division of the work occupies more than two-thirds of the matter of the entire volume. It gives in detail the experience of accoucheurs in different countries, relative to the operations for inducing labour. The extraordinary industry of the author is here more conspicuously seen, and the labour expended in collecting and arranging this enormous mass of facts must have been prodigious.

We must now draw this notice to a conclusion, though we feel that it has not done anything like justice to the merits of Professor Krause's able treatise. Possessing but little originality—and that little, according to our judgment, of equivocal value—the work is yet one admirable of its kind, and unequalled on its own particular subject. It literally brings before us *all* the knowledge and experience that has been attained on the subject of which it treats, and for this reason we conscientiously and heartily recommend it to the attention of obstetricians.

[a] Vol. xvii. p. 242, Plate II., C.

Human Osteology; comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone and its Development; to which is added a Brief Notice of the Unity of Type in the Construction of the Vertebrate Skeleton. By LUTHER HOLDEN, F.R.C.S., &c. Illustrated by numerous Drawings on stone, and woodcuts. London: Churchill. 1856. 8vo, pp. 204.

NOTHING, in our opinion, can more forcibly demonstrate the extreme difficulty of anatomy, as an abstruse science, than the simple fact of the numerous works that are so constantly issuing from the press, with the professed object of elucidating and simplifying those difficulties which, either through the hurry of composition, or sometimes the actual impossibility of written explanation, have found their way into many of our most esteemed class-books. Now it may be regarded as very questionable, whether those individuals who so confidently undertake to remove these obscurities are invariably successful in the task which they have assumed; for, however well they may understand the subject themselves, they will find it to be a quite different matter when they proceed to transfer their ideas to paper. Intricacies, which they could have, perhaps, explained away with the utmost facility verbally, become suddenly surrounded with unforeseen difficulties; and, however practised they may be in the art of writing, or whatever may be their command of language, they will, unexpectedly, discover themselves immersed in a sea of confusion, from which they may possibly succeed in extricating themselves to their own satisfaction, but rather equivocally so to that of their unfortunate reader, who may toil in vain for hours in the futile attempt to acquire an insight into their meaning.

As far as anatomy is concerned, we hold it as a fixed rule, based on the experience of many years, that the only legitimate manner in which it can be properly impressed on the mind of the student, and, indeed, the simplest and ultimately the easiest course that can be adopted to imbue him with a clear and rational insight into the subject, is to refer him to the human body itself, and its several component parts. This, with the assistance of a good teacher to aid and assist him where difficulties may occasionally obtrude themselves, will accomplish a more satisfactory result, in a briefer period, than ever will be effected by the most elaborately executed plates, or the most attentive examination of those emasculated anatomical preparations which at present encumber and disgrace our museums,

—absolutely ridiculous as examples of what they are intended to represent, and only tending to perplex the benighted student, who finds it utterly impossible to reconcile the description of his text-book with the shrivelled, deformed, and unmeaning specimen of humanity before him. But, whilst pronouncing this unsparing condemnation on what we conscientiously believe to be a positive burlesque on teaching, we would not wish it to be inferred, that we entertain the same forcible views with regard to the illustrations which it has become fashionable to intersperse through works treating on this subject, and without which they are actually considered to be imperfect. It would be absurd to deny, that a good plate, or representation of a part, has often afforded invaluable assistance to the student; but then they should be regarded merely as temporary adjuvants, and should never be permitted to supersede the labours of the dissecting-room,—a course which we are apprehensive is but too often the case, and will continue to be so, until a completely different test of examination is instituted, which will more thoroughly fathom the proficiency of the candidate in his actual knowledge of the human body.

We have been drawn unconsciously into these observations, from a perusal of Mr. Holden's recent volume on anatomy, which is, unquestionably, by far the best of this class of works which has appeared for some time. It would be idle to give extracts from a book of its descriptive nature, as, to form a conception of the clear style in which it is written, it is only necessary to refer the reader to the first or introductory chapter, where he will find a very excellent history of the production, growth, and structure of bone, couched in language simple but didactic, and divesting this intricate subject of many of the difficulties which have, more than once, proved an insurmountable stumbling-block in the path of the industrious student. In the entire of his work Mr. Holden has shown that he deserves the character of an able teacher. Impressive at the proper moment, he draws attention to prominent facts, and aims to keep the mind directed to these as the great landmarks to other less important researches, which he, very judiciously, leaves to future investigations to elucidate. Apparently seeking for no adventitious assistance from that ornamental redundancy of language which cannot be too strongly condemned in books of this class, he strives only to convey his ideas in terms perfectly intelligible to the most ordinary capacity; whilst his perfect familiarity with his subject renders his explanations always clear and precise, even in the most abstruse and complicated regions of this most difficult science.

It would be an impossibility, by a mere verbal description, to give a proper idea of the exquisite illustrations with which this volume is so copiously studded: they are, in fact, calculated to confer the highest credit on the artistic skill of the country that elaborated them. But, apart from any merit which their inherent excellence may justly entitle them to, we feel ourselves constrained to express our most unqualified admiration at the originality and ingenuity that have been displayed in the conception and execution of a design which may be pronounced to be almost unique in its nature. Not only are the bones themselves, with their numerous and minutest processes, accurately detailed, but the nomenclature of each, as well as the attachment of the several muscles, is most legibly imprinted on every corresponding part; and this with such fidelity and attention that, after a most scrutinizing examination, we can safely affirm scarcely an error could be detected in their entire arrangement. None but the practical anatomist can fairly estimate the amount of mental toil and care that must have been expended in the progress of this undertaking; and most sincerely do we trust that the popularity which it so justly deserves may liberally repay the author for the pains he has taken in the difficult task which he has so admirably accomplished.

Untersuchungen über den Einfluss, welchen die Blutströmung auf die Bewegungen der Iris und anderer Theile des Kopfet ausübt. Inaugural-Abhandlung, der Würzburger Medicinischen Facultät zur Erlangung der Doctorwürde vorgelegvon ADOLF KUSSMAUL. Wurzburg, Verlag der Stahel'schen Buch-und Kunsthandlung. 1855. 8vo, pp. 42.

Researches as to the Influence which the Current of the Blood exercises on the Movements of the Iris and of other Parts of the Head. An Inaugural Dissertation, submitted for the Degree of Doctor of the Medical Faculty of Wurzburg. By ADOLF KUSSMAUL.

In the above described thesis, which is dedicated to Professor Rudolf Virchow, the author details a number of carefully performed experiments, of the results of which he gives, at the termination of his essay, the following summary:—

" If the results of the foregoing various experiments (he says) be collated and compared, we shall be justified, I think, in establishing the following propositions, which, although at

present demonstrated only for rabbits, shall probably be found to obtain in their essential points for all mammiferous animals and for man himself:—

" 1. The current of the blood exercises an influence on the motions of the head and of its movable parts.

" 2. This influence is regulated by definite laws.

" 3. It is recognisable from the motor-phenomena which occur, when the current of arterial or venous blood in the great vessels of the neck is interrupted or is again restored.

" 4. But such motor-phenomena ensue only when the amount of blood in the head undergoes a considerable change in consequence of derangements of the circulation.

" 5. The withholding of the arterial blood occasions in a first period contraction of the pupil, of the space between the eye-lids, of the nostrils, of the mouth, and of the concha of the ear; in a second period, on the contrary, there is dilatation of these parts. Of these phenomena those relating to the pupil and the space between the eye-lids are constant, while those relating to the mouth are only rarely observed, and the contraction of the nostrils and of the concha in the first period is only occasionally observable.

" 6. The restoration and increase of the arterial afflux constantly occasion very considerable dilatation of the pupil, of the space between the eyelids, and of the concha. The fissure of the mouth only rarely exhibits any change, and then it is in the form of dilatation. The nostrils dilate in one case and contract in another. With the return to the ordinary conditions of the current, the diameters resume the magnitude they had before possessed.

" 7. The retaining of the venous blood in the head sometimes produces contraction, the restoration of its flowing off causes dilatation of the pupil.

" 8. The withholding of the arterial blood gives rise, in addition to those mentioned under the fifth head, to a great number of other motor-phenomena which occur in the eyeball, the membrana nictitans, the hairs of the head, the ears, and the head itself. These also assume completely opposite directions in a first and second period, although the degree of force they possess varies in different individuals. On the whole, those of the first period are frequently not to be recognised, while those of the second are more rarely absent.

" 9. In like manner the re-establishment and increase of the arterial afflux produces in these parts a series of regularly returning motor-phenomena, and their direction is opposed to

that which those occurring in the second period of the arterial anemia are accustomed to assume.

"10. It is particularly the rollings of the globe of the eye, which, with great regularity and strength, return in the second period of the arterial anemia from within and below outwards and upwards, and on the reflux of the arterial blood take place from without and above, inwards and downwards.

"11. With equal regularity does a retraction of the globe occur when the arterial blood is held back, while the renewed afflux of the latter is accompanied by its projection from the orbit.

"12. When the venous blood is kept back, the globe projects from the orbit and the fissure between the lids becomes enlarged, while its afflux is attended with the opposite phenomena. Keeping back the venous blood is also capable of giving rise to definite movements of the membrana nictitans and rollings of the eyeballs which are directly opposed to those produced by restoring the afflux.

"13. Abstractions of blood from the arteries of the neck produce, if they are continued to certain degrees, phenomena which correspond to those caused by preventing the afflux of the arterial blood."

The above results of the most carefully conducted experiments—evidences of the spirit of painstaking inquiry, even in minor matters, so characteristic of the German school—we have thought it well to put our readers in possession of. Their interest is chiefly physiological, however; and we doubt much that even if further developed they can ever have much practical bearing on the question of the dilatation or contraction of the pupil as a symptom in head affections, the only important point to which, in our opinion, they might be turned to account.

Living Streams, or Illustrations of the Natural History and the various Diseases of the Blood. By James Paxton, M. D. London: Churchill. 1855. 8vo, pp. 47.

The author thus states the object of this small treatise or contribution to the literature of hæmatology:—

"This monograph is intended as an introducton to the study of the history of the blood, in the following order:—I. That all vital power centres in the blood, or is derived from it. II. That there are several grades in hæmatic development, from its origin in the chyle to its appropriation or its dissolution. III. That the most im-

portant part of the blood consists in the individualized and isolated red-cells floating free in an albuminous fluid, and compared to infusorial animated beings. Each cell is complete in itself, but myriads, in a collective body act with definite purpose and in a physiological capacity, contain the principle of animal life. IV. To confirm this view, the sanguineous cells are exhibited under disease, injuries, privations, poisons, and ultimately in the state of death. The physical conditions of the blood only are noticed while the neglect of the chemical changes may seem an omission, but the chemical relations are ever varying."

The foregoing extract certainly exhibits a wide field of investigation to the physiologist, and one of the greatest value to the pathologist, if properly pursued, or legitimately prosecuted; but we regret that it is our painful duty to convey an unfavourable impression to our readers of Dr. Paxton's ideas in relation to the blood, not that they are views wholly incompatible with truth, or irreconcilable with reason, but because he has suffered preconceived opinions—assumed without proof, without certainty, without the capability of being supported even by specious, if not convincing argument—to carry him to the very verge of absurdity, and occasionally even beyond that enviable point where we are most happy to lose sight of this mass of platitudes, crude assertions, and puerility. We would direct particular attention to the originality of the following statement, and beg to inquire for whom information of such a grade was intended:—

"Thus every variety of *anæmia* indicates by the complexion a deficiency of red corpuscules and *leucocythæmia*, a predominance of white blood cells. Whenever a patient enters your room whose complexion is of a dull purple hue, with livid lips, it is too obvious that the blood is not well aërated."

The author insists, following the late Mr. David Tod, whose work we recently reviewed, that the red corpuscles of the blood present the features and characters of animalcules, and the "hæmatozoa" of that author become with Dr. Paxton "hæmatids, or hæmatic protozoa." On what supposition this assumption is based we are not informed, although at page 13 we conceived that the proofs of this comparatively novel statement were about to be adduced, but the only tangible assertion bearing directly on the point which struck us as rather convincing, was, that Buffon contended man's whole organization was constructed of an aggregation of animalcules, and he admittedly maintained the character of a philosopher. We would remind the author that another equally great philoso-

pher, Lord Monboddo, signalized himself by the serious announcement, that the whole human family were born with tails. Now, we gravely ask Dr. Paxton, which of the two assertions he deems as the greater absurdity? Really the introduction of such matter, in the present state of physiology, is, at least, unworthy of an educated physician, and cannot be defended. At page 13 we find some views on the development of the red discs of the blood:—

"The development of the blood is fourfold, and comprehends, 1. The *Chylid.* 2. The *Hæmatid.* 3. The *Lymphid.* And 4. The *Liquor-sanguinis.* Here I must request indulgence for using the three first terms, invented for the expression of the community of cells about to be described."

Thus the author converts the chyle corpuscle at once into the red disc, or, if the powers of life are low, these chylids accumulate and constitute his lymphid, or white cell-blood of leucocythæmia. But it must be perceptible to the veriest tyro in physiology, that all this structural phasis is a pure invention, and utterly fabulous, neither supported by reason, nor countenanced by authority, and yet the author remarks, "these views of the blood must *eventually* become a cardinal doctrine in physiology, and a key to the explanation of many pathological facts." We, however, firmly believe such an event not to lie within the range of possibility or common sense, and feel perfectly satisfied that the small work entitled "Living Streams" is not destined to create a great change in our science, or add much to our present information on blood-life.

In the second part of his work the author speaks of the pathology of the blood-discs, adducing their altered condition in uterine disease, in pneumonia, in the insane, in goitre, in cholera, as indicative of certain visible changes or abnormal tendencies, which constitute the essence of the various diseases. We are indisposed to discuss this question at present, as the observation of this disc abnormity is yet in its infancy: much remains to be done even to show that it may be utilized at all by the profession, and we take the liberty of directing Dr. Paxton's labours to this task as a subject worthy of his consideration.

Chloroform: How shall we ensure Safety in its Administration? By Patrick Black, M.D., &c. London: Churchill. 1855. 8vo, pp. 40.

Another pamphlet on the administration of chloroform, to be added to the already over-burthened literature of this therapeutical agent. A host of authorities has already well nigh exhausted the subject, and put us in possession of all the dangers consequent upon its exhibition, with the most natural means for restoration in cases of asphyxia from its effects. The author of the present paper commences his remarks by admitting the above, and by stating that he will make reference to Dr. Snow's views, whilst he shall be constrained to differ from him, and reject the reasoning which he offers to our acceptance on the cause of death by chloroform. He gladly bears testimony, however, to the great ability with which that author has investigated the whole subject, and freely acknowledges his inability to offer anything in addition to the advice he has given as to the precautionary measures to be used in order to insure safety in its administration. Hence it appears the difference between the two is one of theory rather than practice; they both arrive at the same conclusions, their intermediate reasoning being different.

The suddenness of death from chloroform is worthy of remark; in one case but half a minute, in another but seventy-two seconds, in a third only one minute, elapsed till the fatal symptoms supervened. But admitting these facts, Dr. Black does not think we are justified in drawing the conclusion that chloroform proves fatal by paralyzing the heart, and inviting our attention to the distinction between the two different classes of phenomena, viz., asphyxia and narcotism, describes the mode of death under these two heads. He quotes from Drs. Snow and Peveril, and contends that their views present us with all the phenomena of suffocation, just as if it had been intended to give a picture of asphyxia. Reference is made to Dr. Glover's experiments, by which he showed that in death by drowning and from the inhalation of chloroform rapidly administered, the post-mortem appearances were identical; he moreover alludes to the Gateshead case, to a fatal case at Berlin, and to a case published in the Medical Times in December, 1854, all of which Dr. Black considers distinctly point to arrested respiratory movements, or death by asphyxia, and are irreconcilable with the idea of syncope or paralysis of the heart. He also quotes the report of the Boulogne Com-

mission and their conclusions, and contrasts them with those of Dr. Snow.

We now pass on to the grand question—"How may we insure safety in the administration of chloroform?" its danger, as our author avers, being that of asphyxia, not of narcotism; accordingly, we are directed to attend only to the breathing, from which we must not allow our observation to be diverted for a moment. If the patient breathes easily, he is in safety, whatever may be the amount of chloroform which is passing into his lungs; but if his breathing be attended with frequent coughing, and still more if it appears to be restrained, with deepening turgescence of the head and face, we have before us the distinct warnings of danger, and unless we give immediate heed to these symptoms, the danger will speedily be realized.

Such are some of the most important remarks to be found in this pamphlet, to which is added an appendix, containing a refutation of Keill and Müller's explanation of the theory, "that the area of the arterial system goes on continually increasing with each subdivision; and as a result of this, that there is a constant diminution in the velocity of the blood's movement, the further it is removed from the moving power of the circulation." Now, after a somewhat careful perusal of this pamphlet, we have asked ourselves, what real additional information have we obtained as to the "insuring safety in the administration of chloroform," which has not been pointed out long before, and most particularly referred to by numerous authors? Robert, in the "Bulletin Général de Thérapeutique," vol. ii., 1853, p. 545, tells us to watch not only the state of the respiration, but also the pulse; and winds up his remarks with the best means for resuscitation. And as fatal cases may occur from some unforeseen idiosyncracy or other causes, even in the safest hands, we think that the want of an enumeration of the ordinary means for restoring suspended animation renders Dr. Black's observations somewhat incomplete.

The Nature, Treatment, and Prevention of Pulmonary Consumption, and Incidentally of Scrofula; with a Demonstration of the Cause of the Disease. By Henry M'Cormac, M.D. London: Longman, 1855. Post 8vo, pp. 111.

Consumption: its Causes, Prevention, and Cure. By Thomas Bartlett, M.D. London: Bailliére, 1855. Post 8vo, pp. 172.

Two more books on consumption—one for the profession, the other for the public; the former to announce that Dr. M'Cormac claims the discovery of the true cause of the formation of tubercle, and consequently has arrived at the knowledge of a means, not alone for curing, but for preventing, the occurrence of tubercular consumption and of scrofula in any form: and the latter to make known to the world that Dr. Bartlett, who resides in the neighbourhood of Gray's Inn, London, has views as to the treatment of the disease, which, if "strictly and persistently acted on, many a cheek would become roseate that is now blanched; many a tottering frame would be made firm; and hope and succour would be carried to many a desponding homestead." Now, although we have placed these two works together, we do not for a moment mean to place the two authors in one class. The one is an eminent, scientific, and most learned physician, practising in our Irish northern metropolis, of long professional standing, and the author of several works, which have been from time to time noticed in our pages; possessing the faults, if faults they be, of being somewhat too enthusiastic and impulsive, and being too deeply imbued with a love for, and tinged with, the doctrines of ancient medical literature. The other, we gather from what he says of himself, a new settler in the city of London, with no other qualification for authorship, or guarantee for his knowledge of the disease of which he treats, than the bare M.D. on his title-page; who, having already tried his hand on the citizens by writing on those money-making diseases—syphilis and stricture of the urethra, and the discharges consequent thereon—now claims the notice of the public by furnishing them with a popular little book, bound in purple and gold, on consumption.

Nevertheless, although Dr. Bartlett's volume comes before us under these suspicious circumstances, increased by the appearance in the London daily and weekly newspapers of advertisements with laudatory extracts from non-medical publications, we must say that it is calculated to do less mischief

than most books of its class. It contains some judicious advice on the value and importance of fresh air, and of change of air and climate, in the treatment of this disease, but is devoid of the least novelty or original idea from beginning to end; the language and style are somewhat pretentious, yet smooth and readable; and were it not that it has been evidently written by Dr. Bartlett as a puff for himself, we should not feel bound so utterly to condemn its publication as we now do.

Dr. M'Cormac, in his present little work, adopts the same quaint Baconian style to which we referred when noticing his Essay on Moral-Sanatory Economy[a], producing a most readable volume, were it not that the one idea on which he bases his observations pervades every page, nay, every paragraph. At all events, if such were the author's intention, he succeeds most effectually in keeping the reader's attention fixed on what this idea is, although he thus often prevents him from enjoying the peculiar style and originality by which the whole is characterized. Dr. M'Cormac's single idea and great discovery, which he claims to have made, is, that the production of tubercle is caused by the undue prolonged retention of the carbonaceous *waste* of the system in the blood, from which it fails to be eliminated, in consequence of the respiration being much or habitually conducted in foul in-door air. But we shall let him speak for himself:—

"For the first time in the history of disease, the proximate source of tubercle deposits is, in my opinion, capable of exact demonstration. The problem of causation may now in fine be solved. Tuberculous, scrofulous deposits then, whether in the offspring of scrofulous, consumptive parents, or the offspring of persons free from scrofulous, tuberculous disease, are alike and in every case, owing to the insufficient, imperfect performance of the respiratory function. The carbon is retained; in other words, it is not discharged or sufficiently discharged from the blood in the lungs; and finding no adequate outlet by the liver, skin, or other possible emunctories, being neither burnt off in the lungs nor expended in the tissues, is deposited mainly as a hydrocarbon, in the lungs and other organs, under the form of the bodies known by the designation of tubercles. The last link in the chain of causation, the bond of inference here seems clear to demonstration. The carbon taken into the system, in consequence of the vice of respiration is not sufficiently burnt off in the lungs, is not adequately discharged by the liver or the skin, is not deposited as sub-cutaneous fat, is not eliminated otherwise. What then becomes of it? The reply to

[a] Vol. xv. p. 203, New Series.

this is, we find it in the foreign bodies which we term tubercles; bodies which inevitably form, when respiration, or rather a respiratory nisus, is continued beyond a certain period in a corrupt and effete atmosphere. A diseased action is necessarily set up, the carbon finds no sufficient natural outlet, and tubercles, hectic, wasting, final decay, and death, are the result. I do not at all mean to assert that a merely superfluous supply of carbon leads to tuberculous deposits. What I mean is that an imperfect respiratory process fails to purify and renew the blood, which thus, loaded with excretions and foulnesses, has, as it were, no alternative but to deposit them as tubercles, with all their consequent train of evils, in the different tissues."

Having proved this to be the origin of scrofula and tubercle, to his own satisfaction, Dr. M'Cormac readily deduces a formula for the universal prevention and cure of consumption, and enforces it with all the energy of his impulsive style:—

"If my personal conviction," says he, "can avail anything, if convictions, based on a prolonged and most conscientious inquiry, have any weight, I am assured that if the views here adduced as to the etiology of consumption were accepted, and the legitimate consequences enforced, this dread malady would be placed as effectually under man's control as small-pox itself has been; small-pox once deemed equally remediless, equally uncontrollable. Could the Deity in truth intend that this fair fabric, the human frame, this so surprising and wondrous result of the Divine intelligence, should wither and decay, as in innumerable instances it withers and decays, before the time? Religion would answer no, philosophy already answers no, but medicine is silent! Have we then sufficiently, as the Father of our art imposed it on himself to do, introduced philosophy into medicine, medicine into philosophy? I am perhaps the only physician of my time and standing, possibly the only one, who is intimately and entirely convinced that the disastrous and wretched malady, which it is the object of these pages to illustrate, is not only, when taken early, very often removable, but what is of still greater importance, that with proper means and appliances it is in every single instance preventible! In no instance, in the wide history of disease, have medical investigators, I conceive, fallen into greater misconceptions than in overlooking, to the extent they have done, the influence of foul air in the etiology of consumption."

And this universal formula is AIR: fresh air by day, fresh air by night. This includes all directions, all treatment; we are not told even by the author how we are to apply his remedy in the several stages of the malady; whether a patient, with tubercular cavities in his lungs, and the accompa-

nying bronchitis, is at once, without any precaution, to throw open the door and windows of his bed-room at night, equally with him in whom the disease is only as yet suspected? But we will give Dr. M'Cormac's prescription in his own language:—

"The windows, if French casements, must be thrown day and night, largely and freely open in summer, to a less extent in winter. At the same time precautions must be taken, by the choice of a suitable apartment and otherwise, to keep out drifting wind, and rain, and snow, although none of these are so much to be dreaded as confined air. If the windows, however, be of ordinary construction, they must be pulled down, say as far as they will go in summer, in winter a foot or so, save when the patient is dressing or undressing, taking a bath, or during any other needful proper occasion. A good deal depends on the wind and atmospheric temperature, since a smaller aperture will suffice at one time than at another. But the arrangement, it will be understood, is such, however small or large the apartment, that the patient shall not, if it be possible to prevent it, breathe the same atmosphere a second time, much more breathe it again and again. So far from this precaution being observed however, I appeal to medical men themselves, to the philosophical observer, the intelligent community, if the rooms of the phthisical sick be not too generally maintained in a state rather calculated to breed disease than to aid in remedying it."

And again:—

"I wish to deal in no exaggeration, but if we would really preserve boys and girls in health and stamina, if we would avoid consumption with all its train of horrors, we must not only permit, but enjoin it upon them, to spend hours on hours daily in the open air, and above all, perhaps, sleep in a pure night atmosphere. I do not say that this open air life should be all at a stretch, but at intervals, divided, say, into the morning, the mid-day, and afternoon hours. I think that an aggregate of not less than four, and not more than six hours, might be daily devoted to this great object. The remaining portion of the day should be spent in apartments, raised to a temperature in winter of not less than 60° F. At night, however, this is not necessary, save in case of indisposition or choice, even during the coldest weather, since the night-coverings are so very much warmer than the clothes worn in the day. Nor is there the slightest risk, even in the coldest season, of admitting the atmosphere into the sleeping-chamber, only closing door and window during the operations of the toilette. I do it myself, the different members of my family do so; and never have I, or any of those over whom I had sufficient influence to induce them to adopt this delightful and salutary practice, experienced the faintest inconve-

nience from it. It must, however, if not the whole casement, be the upper, not the lower, portion of the window that is opened."

Now, fresh air is a very good thing, but we must protest against its being raised in this way into a hobby, and so ridden *to death*, as Dr. M'Cormac does; the abuse of anything, be it ever so good, is not to be substituted for the use. Moreover, the author presents here a singular example of how a mind, magnetized by any single idea, becomes obscured on all others. What else could induce a man of Dr. M'Cormac's experience and ability to pen such a rhodomontade as the following, in the face of the almost universal experience of the profession:—

"I feel ashamed at once of myself and of my profession when I find a substance like fish-oil exhibited in tons, with the avowed object of removing and preventing a disease like consumption! The codfish, in truth, has taken precedence of the cow. But the employment of codfish oil, whether to prevent or to remove phthisis, will lapse into as well-deserved oblivion as the practice, once so general, of sending consumptive persons into cowhouses, among cows, perchance themselves consumptive, has done."

Or the following:—

"Exercise sufficiently prolonged in the free open air, with its respiration at all times and and in all places, will necessarily and assuredly in every case avert consumption. This is more than can be said, in a single instance, of the seventy or eighty tons of codfish or other fish-oil yearly consumed in England, or the 600 gallons of the same ineffective substance annually made use of in the Brompton Hospital. Indeed, all the codfish in the ocean, were they converted into oil, would not relieve or avert a single instance of consumption."

We have no wish to disparage Dr. M'Cormac for having put forward his views in print—indeed we have too high a personal respect for him to do so; but we must protest against any physician, more especially one of name and position, endeavouring to establish a new doctrine, with a perhaps dangerous plan of treatment based thereon, on insufficient grounds, and merely because he fancies he has made a great discovery, whereby he thinks to revolutionize medicine. We can only say that we are still unconvinced that the little volume we have been noticing contains the true theory of the causation of tubercle, or a universal remedy for its prevention or cure.

A Treatise on the Structure and Use of the Spleen: being one of three unsuccessful Essays for the Astley Cooper Prize awarded July, 1853*; with additional Notes, and an Appendix containing an Exposè of the numerous Errors in the Prize Essay*. By Edwards Crisp, M. D., &c. London: Teape. No date. 8vo, pp. 192.

As unprejudiced labourers in the common field of scientific research with the author of this essay, we must candidly state that we sincerely regret the spirit which pervades its pages, and renders the task of its perusal a labour of necessity rather than one of interest and inclination. At first it was our intention merely to state generally our opinion of the whole tenour of the work, and thus to avoid the examination of much that must be distasteful (we will use no stronger term) to those whose passions and prejudices are not roused into uncontrolled action by the assumed sacrifice of their interest, inducing them, as the result of an unsuccessful competition, to employ personal invective for calm and dispassionate argument. If the object was to convince the Profession of the truth of the author's inquiries, a certain latitude of language and indulgence might be allowed; but the dominating tendency appears rather to be, to induce the reader to believe that the successful essay consists of a series of errors, and as such was unworthy to obtain any prize, and more particularly so when competing with Mr. Crisp's original investigations. Not for our own pleasure or satisfaction, but in a forbearing spirit towards the author, we propose to examine his essay. The work may be divided into two distinct portions, the one treating of the injustice which he fancies he has met in not obtaining the Prize, including an assault on the more fortunate Mr. Gray; and the second referring to his investigations on the anatomy and physiology of the spleen, and the conclusions arrived at after an extensive series of researches. There has been much difficulty in accomplishing this separation, as the absence of system and arrangement manifests itself in almost every page, and if therefore we omit any points favourable to the essayist, let him attribute it rather to his own want of art in the construction of the book than to any inclination on our part to do him an injustice, or inflict further bitterness on a spirit already wounded so deeply as to make him forget "that he who cannot endure defeat is unworthy to achieve a victory." We pray our readers to bear with us, although we may now speak beyond the limits which constitute the recognised boundaries of science in treating of a subject which we

would term literary ethics, and one not unimportant to the future candidates for competitive honours under the several foundations instituted to encourage exertion, excite emulation, and reward the successful labourer in the unappreciated field of abstract research in anatomy and physiology.

In the year 1853 there were four candidates for the Astley Cooper Prize on the structure and function of the spleen, the adjudicators being the medical officers of Guy's Hospital, as announced by public advertisement. In due course the successful individual was declared in the person of Mr. Gray, and subsequently his researches were published in the form of an octavo volume, which was most favourably received by the profession, and certainly reviewed with much praise in the more respectable journals. After some time an advertisement appears from Mr. Edwards Crisp, announcing the appearance of an unsuccessful essay for this same Prize, and calling in question the decision of the adjudicators; stating, moreover, that the forthcoming work should contain a full exposè of the numerous errors in the successful monograph of Mr. Gray. Such is the history of the causes leading to the publication of this curious and intricate volume.

It is to be assumed that when an individual resolves to compete for any public honour, he does so after mature reflection, two considerations particularly forming the substance of those deliberations—the one appertaining to his fitness for the task, the other to the constitution of the court of examiners. The first, owing to a wise provision in our nature, rarely interferes with our inclination; but the second, from causes into which we need not enter, often deters competitors from entering the field. But should any candidate, fully cognisant of the general complexion of the court of examiners, determine to submit his labours to their decision, he from that moment unequivocally recognises their absolute fitness, and should unhesitatingly yield an implicit obedience to their award, whether favourable or the reverse. In justice he ought not to assume that corrupt motives actuated them or dictated an unfair decision, nor ought he to place his individual opinion in opposition, not only to that of the adjudicators, but also in direct antagonism to the expressed convictions of the several reviewers, who could not possibly be prejudiced in favour of Mr. Gray, whom many of them had never even seen, or been in the remotest degree acquainted with. We conceive, and we care not if this expression of our sentiments may excite the anger of Dr. Edwards Crisp, that the spirit of gross egotism which disfigures the section of the essay which

may be styled the "complaint" is certainly without a parallel in literature,—in fact, it is the opinion of the author against the world.

Let us, however, do him justice by stating the objections which he urges to Mr. Gray's receiving the Prize. First, the entire essay is not original; secondly, the adjudicators were aware of his candidature; thirdly, the whole staff of Guy's did not act in the capacity of judges; and, fourthly, that it contained serious errors, or, in other words, was far inferior to Dr. Crisp's production in every respect. Now, in reference to the first charge, Mr. Gray candidly admits the assistance of Messrs. Pollock, Johnson, Holmes, &c., and very properly availed himself of Dr. Noad's analytical labours, as he imagined it would render the work more complete, but, above all, that it would throw a greater amount of credible information into circulation than if he attempted to accomplish the whole task himself. This we believe to have been the intention of the founder, that the competition for the Prize should confer benefit on the entire profession, and not that it might form a test of the amount of labour that could be achieved by one man in a given period—such, indeed, would be taking an exceedingly narrow view of the object of the donor. As to the authorities of the Hospital being aware of Mr. Gray's candidature, perhaps they were; but, curiously enough, Dr. Crisp admits himself that they were also cognisant of his being an essayist, owing to the peculiarity of his writing. With respect to the obstetric physicians of the Hospital being excluded from the court, the author makes this singular statement:—

"Another question is, who are the Physicians of Guy's Hospital? Why are the obstetric physicians excluded? Many subjects in these Essays would especially come within their province. I make no objection on this score, because if I had gained the Prize, I should have been quite content with the adjudicators."

Finally, as we are not Mr. Gray's advocates, and as we are constrained to adopt some limiting point to our functions as reviewers, we must leave Dr. Crisp's critical notice of Mr. Gray's work to be answered by that gentleman himself, always assuming that it requires any answer at all when seriously considered. We now pass with a feeling of relief to the more purely scientific portion of the volume, and here we are bound in justice to say, that good service has been done to the cause of anatomy by the author, though we regret to say that we cannot bestow the same praise on the illustrations; for the industry evidenced in his sending in with his essay two hundred

and forty-three preparations, we cannot sufficiently testify our admiration, and since that period he has added about one hundred and fifty more. These include examples of the spleen from every class of animal possessing that organ, giving the weight of the gland and that of the body; but this is certainly effected in the most intricate mode of arrangement that can possibly be imagined, so that it is often a labour of some magnitude to toil through a single page of the book. The author thus states the object of the essay:—

"1. Brief introductory remarks on some of the more recent theories concerning the anatomy and functions of the Spleen. 2. Physiological and Anatomical Proem. 3. The Anatomy of the organ in man, and the lower animals. 4. Its weight in comparison with that of the body. 5. The progressive development of the Spleen in the Vertebrata, and its size as compared with the Liver, Kidney, Pancreas, Heart, Lungs, and Brain. 6. Its size, in relation to the blood corpuscles, the bile, and the urine. 7. Its size in relation to the magnitude of the stomach; the length of the alimentary canal; existence of a gall-bladder; the nature of the food, the quantity of fat, the temperature, muscular power, swiftness and longevity of the animal. 8. The effect of climate on the size, shape, colour, consistence, situation, elasticity, &c., of the Spleen in the various classes of animals. 9. Supplementary Spleens. 10. The state of the Spleen in acephaloid and malformed animals. 11. The supposed cause of the absence of the Spleen in invertebrate animals. 12. The analogy (assumed) between the Spleen and the glands without ducts, viz.: the thymus, thyroid, and supra-renal capsules. 13. Its supposed resemblance to the placenta. 14. The effect of extirpation of the Spleen in man and the lower animals. 15. My own experiments respecting the action of medicines, poisons, and injections into the veins; of heat; of cold; abstinence and repletion. 16. Lastly, and especially,—to endeavour to elucidate the physiology of the spleen, by its morbid conditions in man and the lower animals. 17. General conclusions from the above evidence."

On all these points he is extremely brief, but still there is much original thought, borne out in a great measure by deductions from comparative anatomy, that really renders the book a valuable addition to our works on the spleen. No doubt, the author has been the first to draw attention to the constant existence of valves in the splenic vein of animals with large stomachs. We quote his own description:—

"*Splenic Vein.*—Kölliker, and all the writers that I have read, state 'that the splenic vein, and the veins of the portal system, are destitute of valves.' This applies to the splenic vein of man; but I suspect, that in many of the lower animals, the valves of the splenic vein, both outside and inside the spleen, are present. I first

discovered this in the giraffe, where they are seen (as in Prep. 12); but in the horse, an animal whose muscular power and circulation are deranged more than any other by violent exercise, they probably are more numerous than in any other. Preps. 14 and 15 show them in the horse and in the latter prep. they are seen likewise in all the lateral veins; they are more minutely described under the head of *Solipeda*. They are also present in the sheep, about three-fourths of an inch before the vein enters the organ. In the tapir, pig, and ox, I have also found them, as well as in the zebra. Unfortunately, I did not suspect their presence when I first commenced my dissections, and, therefore, they may have escaped my notice in many animals.

"Although the human spleen is not supplied as in the quadrupeds alluded to, yet the construction at the mouths of the veins is so beautiful, that there is a complete valvular arrangement, which to a great extent prevents the reflux of the blood; and in the whole animal structure I know of no fact more beautifully apparent than this; and in Plate 6 E (of the Arteries, Veins, and Absorbents) of the leopard, this arrangement is well demonstrated, so that when the vein is distended with blood, the regurgitation into the splenic substance is in some measure prevented by the partial closure of the venous apertures."

The facts in relation to the extirpation of the spleen are both curious and interesting, well collated, and apparently given with candour; and in truth this is not the least valuable portion of the essay, although the deductions derived from this particular source are more or less negative; but such experiments as extirpation and their results will ultimately assume a special value as adjuvants to other modes of research; and such appear to be the views of the author, in which we perfectly coincide.

It now remains only for us to draw attention to Dr. Crisp's conclusions as to the structure and function of the spleen, and to direct especial attention to the fact, which he admits himself, that they are somewhat analogous in their main features with the conclusions of Mr. Gray on the same subject.

"Seeing that the spleen can be removed with impunity in some animals, and after its removal all the functions of the body may be (as far as we can judge) as well performed as before, it is fair to conclude that it is an organ comparatively of little importance in the animal economy.

"That the assertion of *Blumenbach*, *Monro*, and other anatomists, that the spleen decreases in size from man to the fish, is founded in error; for the spleen of many fishes, so far from being smaller, is larger than in any other animal.

"That the statement by most writers, respecting the compara-

tive size of the spleen and pancreas in birds, does not apply to all the genera.

"That judging from the use of the microscope, the application of galvanism, and physical elasticity, no part of the spleen possesses any muscular fibres.

"That taking into account the large amount of elastic tissue in the spleen; its capability of distension; its resumption of its former size; the valvular arrangement of the mouth of the veins, and its network of trabecular tissue, which is so placed as to assist, under certain circumstances, the circulation of the blood, I infer (as many have done before me) that one of its offices is that of a reservoir or receptacle of the blood, *not required by the liver;* and that its state of distension or repletion depends much upon the condition of that organ.

"That in what is called white blood, or *Leucocythemia*, it is probable that the liver has more to do with the alteration in the blood than the spleen; an inference, strengthened by the two cases related in the appendix, and by the fact, that in numerous instances of *Leucocythemia*, the spleen has been found in a normal condition.

"That as in all quadrupeds (speaking from my own dissections) the spleen is on the left side of the stomach, and in many attached to the diaphragm, it is more than probable that this muscle, when the stomach is distended, produces considerable influence on the circulation of the blood through the spleen.

"That in birds, reptiles, and fishes, nearly all of which are unprovided with a muscular diaphragm, the spleen is for the most part seated on the right side of the spinal column.

"That after careful and extensive examinations of the spleen-pulp of different animals, I have failed to detect the blood-cells and decomposing blood-cells described by Kölliker.

"That the assumption, that the colouring matter of the bile is formed by the decomposed blood corpuscles, has no accurate foundation.

"That in animals, the spleens of which have been excised, the bile presents no important alteration, either in its appearance or in its normal composition.

"That the arteries terminate abruptly in the spleen, in tufts, which surround the *Malpighian* body, and serve for the secretion of its contents.

"That the blood of the splenic vein is coagulable, and that it differs in no important particular from the blood of the artery.

"That from numerous experiments upon rats, mice, and birds, I am unable to discover that quinine, the poison of reptiles, and other noxious agents, produce any immediate contraction or special influence upon the spleen.

"That judging from the table of cases of *Phthisis*, in which the weight of the spleen did not exceed six ounces, and the size of the liver was much increased, it is fair to infer that the office of the

spleen cannot be, as supposed by *Dollinger*, and others, that of a supplementary liver.

"That judging from the examination of a great number of the bodies of the lower animals (kept in confinement) in which the spleen was enlarged and tuberculated (see preparations and drawings), the liver being sometimes tuberculous, and at other times normal, and *vice versâ*, it is probable that the connexion between the spleen and the liver (excepting the mechanical one) is not so intimate as has been hitherto supposed.

"That when the stomach is full, the splenic artery is probably straightened, and in this manner the flow of blood to the stomach is facilitated.

"That with the exception of the *Cheiroptera*, the spleens of which resemble the rodents, the spleen of an animal examined will alone tell the class to which it belongs.

"That the spleen of the *Quadrumana* bears the greatest resemblance to that of man, and that the lower we descend in the scale of creation (with a few exceptions), the greater is the dissimilitude of the spleen to that of the *Bimana*.

"That the weight of the animal does not indicate the size of the spleen, as the deductions from the Table of the examinations of one hundred and twelve horses prove.

"That in fat animals, judging from the examination of prize sheep, pigs, and oxen, the spleen is smaller than in those in tolerable condition.

"Finally.—That taking all circumstances into account, with the evidence that I have obtained from the dissection of Man and the lower animals, bearing in mind especially the relative proportions of the viscera in the various classes of animals that I have examined; and looking *particularly* to the effects of extirpation of the spleen, as exhibited upon the bodies of the three animals, a dog, cat, and rat, sent in jars, accompanied by animals (with spleens), fed and treated in the same manner, I infer, as before stated, that the spleen is comparatively an unimportant organ in the animal economy.

"That one of its offices is that of affording an adequate supply of blood to the stomach and liver, and to act as a reservoir for the blood, when the balance of the general circulation is deranged.

"That another of its offices is, judging from the beautiful arrangement of the Malpighian corpuscles, and the distribution of the arteries upon them, and especially by the action of heat and nitric acid upon these corpuscles (never, I believe, before noticed), to secrete an albuminous fluid, which performs some part in the process of sanguification."

In conclusion, we have no hesitation in stating that Dr. Crisp has contributed a valuable essay on spleen anatomy and function, containing the greatest amount of experimental research yet published in relation to this organ, and that he de-

serves the thanks of those engaged in similar investigations. And it will even form a subject of sincere regret to every right-thinking member of our profession that he has disfigured a really useful book with the language of bitter antagonism, which cannot result in any material advantage either to himself, or profit to others whose pursuits are cognate with his own.

On the Organic Diseases and Functional Disorders of the Stomach. By George Budd, M.D., F.R.S., Professor of Medicine in King's College, London; late Fellow of Caius College, Cambridge, &c. London: Churchill. 1855. 8vo, pp. 357.

Dr. Budd is favourably known to the Profession: his work on the Liver is replete with interest and originality, and has, ever since it appeared, been one of our standard authorities. When, then, we read the announcement of a new treatise from his pen, and that upon another of the Digestive Organs, we must say, we anticipated the result of a still greater effort than had been already made. We commenced the perusal of the present volume, therefore, with much interest, the more especially as it purports to treat of a class of most important maladies hitherto but very imperfectly elucidated in more systematic treatises, and about which even obscurity prevails in the professional mind even of the present day.

We were prepared to meet with a monograph which would have, at least, the effect of not impairing Dr. Budd's well-earned reputation. The brief Preface puts us, however, in possession of facts which led us to restrain our enthusiasm; for we find that the pith and bulk of the work have been for several years before the profession already, in the popular shape of lectures in a London hebdomadal. The "Croonian Lectures" of 1847 are here reprinted, and the remainder consists of casual prelections, which were delivered from time to time to the students of King's College Hospital, and appeared in the Medical Times and Gazette of 1853–4. This practice of reprinting from the journals we may state, *en passant*, is becoming, we think, much too prevalent, and induces a disregard of that usual care which most authors are scrupulous in providing when launching a new work upon the stormy waters of medical criticism. Unless the work be designed exclusively for students, the Profession deserves at the hands of its author something more than elemementary principles, attractive cases for illustration, and the well-known facts of the day, among which are very sparingly intermingled the individualities of the author. It is this style

of writing which, we are inclined to believe, is fostered by the practice to which we have alluded, and which, in our mind, is worthy only of being ignored.

But to return. Though the volume before us is open to the objections hinted at, still, in justice to Dr. Budd, we will say that it may be of considerable use in familiarizing the professional man with the main and fully ascertained data on which we can hope to base a rational and successful mode of managing gastric diseases. It is an eminently practical work, pointing out very clearly the indications for remedial measures, so far as our present clinical knowledge enables us to go. Its clinical features in this respect are highly commendable; but, with the exception of the subject-matter of the "Croonian Lectures," above referred to, we notice a great deficiency in original pathological description, and, indeed, some lesions are either entirely passed over or treated in a very cursory manner.

It cannot, then, be considered other than a collection of clinical discourses on the principal gastric maladies, to elucidate which the author has drawn freely from authority, and the records of the hospital with which he is connected; and, in consequence, the great bulk of these lectures comprises merely what the profession was, at least of late years, fully in possession of. Having mentioned these drawbacks, to which we feel it incumbent on us to allude, we shall merely, in this notice, inform our readers of the principal points treated of in the work.

The volume is divided into sixteen chapters, each comprising a lecture, and occupying, on the average, about twenty-two pages. The order of the subjects may be briefly given thus:—1. On self-digestion of the stomach; 2. Congestion; 3. Inflammation; 4. Cancer; 5. Sympathetic disorders; 7. Various forms of indigestion; 8. Principal gastric symptoms; 9. Treatment. In the examination of these topics we find that references to, and quotations from, above forty-five authorities have been made, and about twenty-two illustrative cases have been recorded more or less fully, the majority of which had been either under the care of the author personally, or had occurred at King's College Hospital.

The chapters on self-digestion of the stomach are interesting, as drawing attention to a subject which had been almost neglected since the time of Hunter. Pathologists in general, it is truly said, seem not to be aware how frequently the stomach undergoes this change. It has been supposed by many to take place only after violent deaths; and, when occurring, as it often does, in other circumstances, it has been

either overlooked or has been regarded as the effect of disease. Dr. Budd gives a reason for this, and ascribes much of the apathy or ignorance existing upon this important pathological fact, to the varying conditions under which different observers had made cadaveric examinations.

In his discussion of this very important topic—important both in a pathological and in a physical point of view—while referring to the circumstances under which self-digestion occurs, he notices the fact of its being not unfrequently observed in persons who die of disease, more especially phthisis, in connexion with which malady Louis had published a treatise, not, it appears, having been aware that the phenomenon referred to could take place without disease. Cruveilhier's two forms of stomach softening, the pulpy and the gelatinous, and Rokitanski's three varieties,—supposed by their respective relators to be in part only due to the action of the gastric juice,—Dr. Budd shows satisfactorily to depend entirely on the cause mentioned. He has proved distinctly that the gastric juice is secreted not unfrequently at other times than during chymification; and it is from this cause he argues that self-digestion may occur after a variety of diseases. Sufficiently plausible arguments are also employed to show that the softening of the coats of the intestines, occurring as it does in the same class of cases, is the result of digestion after death. This subject engages the first two lectures, and we think constitutes the most favourable specimen of the work. There is a clearness of elucidation and a happy commixture of recorded facts and original thought, supported by apt illustration and experiment, which render this portion of the book of great interest to the scientific reader.

The third chapter is occupied with the subject of congestion; it contains nothing new, and is indeed chiefly taken up with an interpretation of the symptom,—hematemesis.

The next four chapters are upon the various forms and stages of inflammation of the stomach, including the perforating or simple ulcer. They open with some very excellent remarks pertaining to the signification of the term inflammation, which are quite consonant with the modified view which the advance of medical knowledge of late years has rendered it necessary for the profession to adopt. Thus:—

"It is, in speaking of any individual case [he says], not enough to say that the disease is inflammation of this or that part, to convey an exact notion of the changes that are taking place; it is necessary to specify in some way or other the *kind* of inflammation, either by reference to the cause of the inflammation, as by saying

that it is rheumatic inflammation, or gouty inflammation, or syphilitic inflammation, or erysipelatous inflammation, or if the cause be unknown, by reference to the nature of the fluid effused, as by saying that the inflammation is suppurative or adhesive."

This kind of parenthetical observation, not unfrequent throughout the course of the work, indicates that the writer is inclined to take a general view of whatever topic is under discussion, and gives a degree of freshness to his explanations, which they could not otherwise possess. In considering gastric inflammation, he bases his principal remarks upon recorded experiment, illustrated by cases, in addition to descriptions of post-mortem appearances. The mammillated state of the mucous membrane, first mentioned by Louis, and by him attributed to inflammatory action, he shows distinctly, is often not denoted by any symptoms of gastric disturbance; and that while it may arise from inflammatory thickening, it is also frequently the result of retained secretion in the mucous cells; and sometimes occurs in persons killed by accident in the midst of health.

The interesting subject of *the perforating ulcer* occupies the principal portion of the sixth and seventh lectures. These appear to have been carefully written, and contain a full and explicit view of what is known upon the subject. The diagnosis of this form of ulcer is given with some minuteness, though we notice a repetition of the remarks upon hematemesis previously referred to. Dr. Budd's conclusions on this point are succinctly stated in the following paragraph:—

"It follows, therefore, that from the peculiar train of symptoms which I have mentioned, namely, pain and soreness of the stomach, always brought on or increased by meals, continuing for many weeks or months with occasional sour eructations and occasional vomiting, but without much fever or constitutional disturbance, and succeeded at the end of that time by profuse vomiting of blood—it follows, that from this peculiar train of symptoms, we may occasionally, in persons between eighteen and thirty, infer the existence of ulcer in the stomach with almost as much certainty as that of any inward disease."

There is no doubt now in the mind, either of the pure pathologist or the practical physician, that ulcers of the stomach have healed. A reference to the first instance of the kind, which Dr. Budd met with, is given at page 145. The patient had been in hospital for a length of time, and presented the characteristic symptoms; he left apparently well, but after some time died; the body was examined, and the cicatrix distinctly found: parallel cases are also quoted. In the treatment of this malady, the author principally relies upon a rigid diet and regimen,

sustained for a lengthened period: turpentine when hematemesis occurs, after the example of Hunter; bismuth and magnesia, and the compound aloetic or colocynth pill to relieve obvious and frequently occurring symptoms. The diet he depends upon should consist mainly of milk and farinaceous food.

At the conclusion of the seventh lecture, some explanations, with illustrative cases, are given of the duodenal ulcer and the hemorrhagic erosions of Cruveilhier and Rokitanski, and are well elucidated by reference to Beaumont's description of the effect which excess in eating or drinking had on the stomach of the celebrated Alexius St. Martin.

Cancer is the only remaining organic affection which Dr. Budd treats of, and which forms the subject of the eighth lecture. There is little of novelty in the account here given. Rokitanski's pathological view is endorsed. The diagnosis, he shows, must be the result of a careful reasoning upon a multitude of data, some positive and some negative.

Prior to the existence of tumour the disease may exhibit symptoms almost identical with those of non-malignant disease; the treatment advised aims simply at meeting distressing symptoms and mitigating the sufferings of the patient.

The sympathetic disorders are alluded to in the ninth lecture; among these the gastric disorder in phthisis, in hepatic, renal, and uterine diseases, as also the nervous forms in women and children, with their appropriate treatment, are the principal points brought forward.

The four subsequent lectures refer to the following forms of indigestion:—

1. From deficient secretion of gastric juice.
2. From fermentation of the contents of the stomach.
3. From defective action of some excreting organ, causing impurity of the blood.
4. Manifested by the eruption of urticaria.
5. Pyrosis.

Of these, the chapter on the effects of fermentation seems to us the most interesting; particular details are given in reference to the recently discovered vegetable growth, named by Professor Goodsir "sarcina ventriculi," which has attracted a good deal of interest in connexion with the few cases in which it has been as yet observed. The circumstances under which this growth appears are clearly pointed out, so far as our present knowledge warrants us to state, and due credit is given to Dr. Jenner for his recommendation of the hypo-sulphite of soda. Dr. Budd speaks of the good effects of common salt in similar

cases; and this, with creasote, and the strictest regulation of diet, he lays down as the most rational and efficacious treatment to be adopted.

In the remaining portion of the volume the author gives his therapeutic views, which we are happy to find are clear and simple, and in which comparatively few remedies enjoy favour. When we name ipecacuanha, bismuth, the vegetable astringents, hydrocyanic acid, the alkalies, the mineral acids, vegetable bitters, steel, purgatives, we include his list of his most valued medicines; the indications for the employment of each are, in a great measure, based upon rational views of their physiological action, and the morbid processes to be affected.

This brief notice will sufficiently impart to our readers the general scope and character of the work. Though we cannot divest ourselves of the impression that it is one rather adapted for the advanced student, than the practitioner who is *au courant* with the medical literature of the day; and though we think it by no means calculated to add in any respect to the reputation of its author, still we have no doubt it will be useful in popularizing amongst us the most esteemed views on the management of gastric disorders. The time has passed when a host of anomalous or ill-understood affections were, with one accord, transferred to the capricious category of bilious and stomach disorders,—when the blue pill and the black draught—as in the days of Abernethy—were almost the universal medicine, and when the term 'dyspepsia' was but a cloak for ignorance. The modern views set forth in this treatise must materially aid in dispelling such crude notions; and did it serve no other purpose, this work of Dr. Budd (reputation apart) would deserve well of the Profession.

Aids during Labour: including the Administration of Chloroform, the Management of the Placenta, and Post-partum Hemorrhage. By JOHN RAWLINSON PRETTY, M. D. London: Churchill, 1856. Post 8vo, pp. 210.

THE questions mooted by Dr. Pretty in the little volume before us are certainly very important; but we do not think that he has added much to our knowledge, or established conclusively any great principles.

The first chapter is introductory, and devoted to show that though labour may be a natural process, yet that civilization renders aid necessary even in ordinary cases.

"Not only are women educated in a most unnatural way, and their proper development checked, but they also too often, from marrying too late in life, fall pregnant at an age when many women have almost or quite ceased childbearing. In such cases, from the unyielding state of the parts, art may avail greatly, as well as in the majority of ordinary first cases."

Now, according to Dr. Pretty, the great difference between women in a savage and civilized state is the greater amount of muscular strength in the former: and its deficiency in the latter must be the cause of hemorrhage and other dangers. It seems to follow, therefore, according to our author, that aid may be given to supply this deficiency by the accoucheur:—"I feel convinced that in difficult labour, I have sometimes averted its being instrumental, by compressing the abdomen and uterus with the left hand forcibly during the continuance of the pains for a considerable length of time." This is the first aid proposed; and in support of it there is a confused series of quotations and figures from Meigs, Churchill, Murphy, and others, as to mortality, modes of uterine action, &c.; terminating in the following conclusions:—

"1. That the contractions of the uterus are aided by the 'consentaneous action of the assistant muscles,' and that the contractions of the abdominal muscles and diaphragm constrict the cavity and aid the expulsive efforts of the uterus. 2. That when the muscular system is well developed in natural labour (as Burns states), women bear their children easily, 'especially in those countries where heat conspires to relax the fibres.' 3. That muscular development is prevented by the unnatural restraints imposed upon girls during their education, and that consequently the second stage of labour sometimes cannot be completed without extraneous aid. 4. That labour may be what Dr. Rigby terms 'precipitate, when the patient is weakened by previous disease, and the soft parts are very relaxed and flaccid,' a state very likely to be accompanied with flooding; or it may be so from too violent and continued muscular action, which may produce laceration and also hemorrhage from the uterus continuing to act after delivery. 5. It follows as a corollary, that giving support to the abdominal parietes during the bearing pains when labour is severe, is not 'meddlesome midwifery,' but is only imitating nature, and supplying a deficiency produced by a faulty education."

Admitting that the four first conclusions are true, with the exception of the last paragraph in the fourth, which we do not understand, we should differ entirely from the fifth; for if a mere support be used, it will not aid labour; and if much

pressure be exerted, which we take to be Dr. Pretty's object, it would surely be mischievous.

The next aid proposed by the author is terminating the first stage when the os uteri is fully dilated, and the presentation has descended, by rupturing the membranes; and, provided we are sure of the premises, we are not disposed to question the conclusion. The third aid is the administration of chloroform; and it is supposed to act by relieving the suffering, and so setting free the muscular power. The author's experience is thus given:—

"Chloroform given in the first degree—only to stop sensation, without removing consciousness—aids natural labour, by diminishing or arresting suffering, from preventing its being retarded by emotional excitement, and I believe also from *generally* relieving the tissues. Its valuable and marked effect in relaxing a rigid os uteri or unyielding perinæum, confirms this view of its action."

Dr. Pretty considers that it increases the tendency to post-partum hemorrhage, contrary to the experience of Simpson, Murphy, and others; but this is of less consequence as he has a means of controlling such an occurrence. On the whole, he has not added much to our information either as to its use, modus operandi, or its dangers.

Chapter III. is a sort of resumé of the author's views as to these aids mixed up with quotations, not always relevant or conclusive, with the addition of suggestions as to opium, and objections against ergot, for which pressure is to be substituted. We object, for instance, to his using as an argument for this practice the use of the bandage during labour with women liable to hemorrhage, or the plan generally adopted here, and quoted from Dr. Churchill, of making steady pressure upon the uterus after the head is expelled; or Dr. Murphy's method of supporting the uterus and perineum during the expulsion of the child. The logic is as bad as the practice.

In this chapter we have also a fuller account of the author's views upon chloroform. He prefers Coxeter's inhaler, and very properly distinguishes the different degrees of anæsthesia. "The guides to the administration of chloroform are the pulse, the breathing, the countenance, and the voice." Dr. Pretty seems as much in doubt as others as to the cases in which it ought not to be given, and as to the mode of death in fatal cases. Nor do we think the rules he has laid down for its administration any improvement upon those of Dr. Murphy.

Let us now pass on to the chapter on the management of

the third stage of labour and post-partum hemorrhage. Instead of the pressure upon the uterus as the child is expelled by the hand of the accoucheur or nurse, Dr. Pretty has invented a bandage with pads, which fold together for the convenience of carriage, and which—

"Is most conveniently passed under the patient just before delivery; it is then ready for attachment, or it can be passed immediately afterwards under her. The pad can be instantly and easily adjusted, and a more or less powerful pressure over the uterus is obtained which can be regulated by the tourniquet screw, and which prevents relaxation of it and hemorrhage, and aids in the expulsion of the placenta. The cord can then be divided, care being taken to do so transversely, and not obliquely and too near the ligature. I at first prefer using the compress without the bandage, as it is more quickly applied, and the latter is sure to get soiled and to require soon changing if applied before the woman is made 'clean and comfortable.' If the compress be not employed, the bandage ought to be used immediately after the removal of the child."

Now, we may as well confess it at once, we have an intense dislike of all those ingenious contrivances for doing that which may be done as well by simpler means. To say nothing of the inconvenience of a man's pockets, coat and great-coat pockets, being filled with bottles and pads and bandages, and if he is to be provided against all casualties with instruments, lever, forceps, and crotchet, besides inhalers, and a supply of chloroform, we do honestly believe that carrying them does mischief in leading to their unnecessary use, and, finally, to a belief in their necessity, and a mistrust in the natural powers. We very much prefer Dr. Pretty's bandage to his compress, and agree with him in disregarding the foolish outcry which has been lately raised against its use. It ought to be made of strong calico, sufficiently wide; and Dr. Pretty suggests, with some supplementary strips which may be useful :—

"In applying it, it must be next the skin, and should be passed underneath the woman from the left side by the nurse, who should be told to get it sufficiently low down, as it should reach just below the trochanters. Care must be taken that the slip of cloth, which ought previously to be rolled up, correspond to the coccyx. The bandage is then to be unrolled, and drawn over from left to right, without in any way exposing the woman; and the two ends meeting on the right side should be tightened inferiorly as much as possible with the thumb and forefinger of each hand, and should then be held firmly with the left hand, and having ascertained that the skin is not pinched up with the bandage, it is to be securely pinned. The bandage should be tight up to a line with the umbilicus; above

this point it may be a little looser so as not to interfere with thoracic respiration. The bandage, thus applied, and being pinned to the figure should be without a crease, and will afford an equable and grateful support. Afterwards the slip of calico can be brought forward from behind, and with a napkin intervening can be pinned to the lower border of the bandage in front. It will thus be securely kept in its place, and cannot tuck up."

Pretty full instructions are given for the management of the placenta, and the difficulties which we occasionally meet from hemorrhage, retention, &c., are discussed; nor do we see much to object in the author's views, but they differ little, if at all, from all the standard authorities. He prefers using the left hand when it is necessary to extract the placenta; we confess to be right-handed, and use the hand over which we have most command. With the following observations we quite agree:—

"Forcible pulling of the funis may tear it off, or it may excite irregular contraction of the uterus, and, perhaps, hemorrhage too: or if the placenta be adherent, it may produce inversion of the uterus; or it may detach it more without doing it entirely; or it may tear it, causing a portion to be left behind, which, by irritating the uterus, and by the attempts of the latter to expel it, may excite a dangerous hemorrhage; or it may undergo decomposition, and produce an irritative, low form of fever, or uterine phlebitis."

But, we cannot agree with the author that "if no pain ensue in about fifteen minutes after the expulsion of the child, the ergot draught should be given and pressure should be employed, either by the hand or compress, to excite the action of the uterus;" pressure, certainly, but not ergot, unless there be hemorrhage; patience and pressure will answer equally well.

The portion of the work treating of post-partum hemorrhage is at sufficient length, and interspersed with opinions as to the source of the hemorrhage, its cause, &c. which are not always very clear nor always very sound. As to the treatment, the author observes: "A remedy, to be efficient, must fulfil three conditions. 1. It must excite contraction of the uterus. 2. It must retain it in a contracted state; and, 3. It must be a safe application;" and he then proceeds to examine the means ordinarily used. Pressure of the uterus by the hand grasping it may fail, and if it do produce contraction, how can it maintain it; it fulfils the first and third condition, but not the second. Cold may, perhaps, induce contraction, but cannot continue it, and may do mischief. The introduction of the hand is dangerous; and in this we agree with Dr. Pretty. Even if successful, in-

jections of cold water into the uterus cannot be depended on, cannot fulfil the second intention, and a syringe may not be at hand; we doubt their safety, although Dr. Pretty says they can do no injury. Pressure by an ordinary bandage and compress cannot be depended on either to excite or maintain uterine contraction. Ergot is uncertain, and takes time. Thus all the old remedies in which we have foolishly trusted are proved to be worthless or worse; and we in despair ask with Dr. Pretty, "What is to be done if all these means fail, and the irritability of the uterus is exhausted, and the woman *in extremis?*" The answer is simple, and, according to the author, sure, "Try my uterine compress." Cast away these fallible means, and instead thereof, when the child is born, or before, apply the compress, and if it do not excite uterine action, it will stop the hemorrhage!

"The portability of the compress removes any objection that might be raised against it on this head. It ordinarily affords comfort to the patient; it is perfectly safe in its application; the pressure of it is equable, and can easily be regulated; it facilitates the expulsion of the placenta, and may prevent after-pains from clots. It is useful in the prevention as well as the suppression of post-partum hemorrhage, and in an atonic state of the uterus will arrest the discharge until contraction can be effected, and, when effected, will retain it in this state. Probably uterine hemorrhage has been considered as differing too much from other hemorrhages; contraction of the uterus has alone been looked to, and the efforts to effect this sometimes fail in their results. The great value of efficient pressure has not, from too exclusive views held with regard to post-partum hemorrhage, been sufficiently appreciated."

We thought that pressure was highly esteemed as a means of restraining flooding, but perhaps the sentence refers to the author's compress, which we do not think is yet general, although it may be, if after sufficient trial it be found more successful than other methods. At present we have only Dr. Pretty's word for it, and he must pardon us if we withhold our assent to the value of this and his other original proposition, pressure on the uterus by way of aiding in the expulsion of the child, until other and better arguments are adduced in their favour.

Letters to a Young Physician just entering upon Practice. By JAMES JACKSON, M. D., LL. D., Professor Emeritus of the Practice of Physic at Cambridge, Mass., &c. Boston, U. S.: Phillips, Sampson, and Co. 1855. 12mo, pp. 344.

IN the earnestness with which scientific investigations are pursued in the present day, in the high value attached to the more strictly scientific methods employed, and in the brilliant light of some of the discoveries made of late, there may be some danger of what is commonly called "experience" being undervalued. We do not mean that a physician will be wise in proportion to the number of cases he sees, independent of the thought and attention he bestows upon them, nor that any amount of practice will teach medical logic to a man whose intellect has not been otherwise cultivated; but we do maintain that a man of common sense and observation, though deficient in modern scientific acquirements, who has enjoyed extensive opportunities, will have acquired a power of recognition and a tact in handling disease which mere scientific training will not give. Therefore it is that we value most highly books recording such experience, and as an addition to the number we already possess, we welcome these admirable Letters of Dr. Jackson, of Boston, in which he has given, with a modesty young writers would do well to imitate, the results of his experience of fifty years. There is something dignified and graceful in the way he alludes to the greater scientific knowledge of his younger colleagues, and manly, in his appreciation of the value of so many years of observation.

The volume opens with a Dedication to Dr. J. C. Warren, his friend for fifty years, in which a very pleasing picture is given of their professional career and personal friendship:—

"You and I," he says, "began our active lives in this city nearly at the same time: it was when Boston had about one-sixth of its present population, and, I suppose, much less than one-sixth of its present wealth. We were so circumstanced as to be peculiarly rivals; our business led us across each other's paths every day for a long series of years. What one gained the other seemed to lose. It would have been very easy for us to have got up a pretty quarrel at any moment; and, having once begun, we might each have got partisans, and all the usual entanglements to such cases appertaining might have followed. Happily we pursued a different course. We met together with the feelings we had as fellow-students. We took much delight in consultation and discussion on professional subjects, and were ever ready to help each other. We have, indeed, maintained a strong personal interest in each other's welfare,

and promoted each other's happiness. We do not resemble each other in temperament, and cannot see all things alike. From this cause, and not always looking at objects from the same point of view, we often differed in opinion. But we have always agreed to differ. We have not often disputed, and never have quarrelled on account of this difference of opinion, nor on any other account. In our intercourse with the sick, each has given each other credit for what was good in him, instead of studying and publishing the other's faults. In every work for the promotion of medical science or for elevating the profession, we have co-operated heartily, neither of us trying to push the other aside. And thus it is, that being now, as regards age, in the front rank of our profession, we have continued to this day on terms of intimacy and friendship. This is something to rejoice in, and something for which we may properly thank God; and I know you will join me in giving thanks reverently."

The following testimony to his younger brethren is peculiarly graceful from such an eminent physician:—

"It has been my delight for many years past, as, I believe, it has been yours, to point out to others what a respectable body of junior practitioners has been rising up around us. Compare the power of distinguishing diseases, and the discretion in treating them, shown in young men of the present day, with the like characteristics of our medical men forty years ago, and you will find the advance to be very honourable. Medical science has been increasing in Europe and in this country. Our younger men have had great masters; not to mention our own countrymen, they have had Laennec and Louis, and many others among the French; in Great Britain and Ireland too many to be named; and a host of surgeons, of whom you could best give the list. It may be said that it would have been shameful if they had not acquired much. But no such reproach falls on them; on the contrary, it is due to them to say, that they have fully availed themselves of their opportunities. For my own part, in looking at one, and now another, who have succeeded me in office, I think it enough to boast of, that I aided in teaching them how to learn. I should be sorry to believe that they had not gone ahead of their predecessor; I only beg that they will allow him to be a sort of honorary member in the corps of Young Physic."

The first Letter is introductory, and the second treats of "conduct in the sick room," and is, we think, of great value: it is full of practical hints on the general conduct of the physician towards his patient, and certainly gives us a most favourable impression of the author. For example:—

"The physician should enter the sick room with the feeling that he has a serious duty to perform. He must remember that his countenance, and words, and actions, are closely watched by the patient and by his friends in all cases of severe sickness; and, indeed where,

though the disease is slight, the apprehension of evil is great. First of all, his deportment should be calm; he should be sober without solemnity, and civil without formality. He should abstain from all levity; he should, indeed, be cheerful, and, under proper circumstances, he may indulge in vivacity and in humour, if he has any. But all this should be done with reference to the actual state of feeling of the patient and of his friends; he should avoid mannerism, and rather cultivate the feelings which will lead him aright, than be thinking in detail of the particular steps which he should take. The physician should never exact attention to himself. The patient is the central object in the sick room, or should be so. The physician should recognise this, and, if possible, put the patient at his ease, so as to facilitate his intercourse with him."

Every one in practice must have felt the difficulty of arriving at the exact truth, in many cases, and the temptation to take one-sided views, and will be prepared to agree with Dr. Jackson, that—

"It is a great part of our business to get at and examine the evidence respecting the cases which are under our care. I hold that a physician must be quite as acute as a lawyer in examining witnesses. The lawyer, when questioning a witness, acts as an advocate, seeking only for what will support his side of the case. Unhappily, the physician sometimes exhibits the same spirit by seeking for what shall support his own doctrines. But his duty is to examine the testimony presented to him in the spirit of a judge, seeking for truth only, being careful not to reject that which is well substantiated, because he cannot understand it, or because it contradicts his preconceived notions. It is for facts we are to seek, for the actual phenomena, and we must be careful not to accept opinions in lieu of them. Hence our scrutiny must sometimes be very close. We must insist on exact answers, though not in a violent manner; for we must always take care not to agitate the sick man."

The author then lays down a systematic plan for the investigation of symptoms, which will insure none being overlooked. Some such plan most men adopt; but we need not dwell on this part of the Letter. Very wise cautions are given as to forming and uttering hasty conclusions as to the nature and causes of the disease; it is much better, as Dr. Jackson observes, to be cautious until our opinion has been deliberately formed, and then to state it frankly to the friends of the patient, at least. The following paragraph is worthy of being remembered by all young physicians, as it is pretty sure to be observed by those of more experience:—

"Your directions as to medicines, diet, and general management, should be given with great care. Make them clear and exact, and state whether they are to be followed literally, at all events; or

whether anything is to be trusted to the discretion of the attendant. In grave cases, or when the drugs are potent, it is best to put down the directions in writing. If possible, deal with the real nurse, whether she be the mother or a nursery-maid; for directions which pass from one person to another are very likely to be misstated."

Letters III. IV. V. VI. VII. are on certain affections of the nervous system, and contain valuable practical suggestions, the result of the writer's long experience; of which we shall endeavour to lay an abstract before our readers. For the cure of *sick headach* Dr. Jackson seems not to have much confidence in any remedy, and for its prevention he lays much stress upon diet, when an error in that particular appears to have been the exciting cause. Not so with *intermittent pericrania*, for "this is one of the very few diseases in which I can venture to say that it may certainly be removed by medicine. The treatment is the same as for intermittent fever." Cinchona or quina and the arsenite of potash are the remedies he prefers, and each "should be given in as large a dose as the patient can conveniently bear," the quina, however, only during an intermission.

When speaking of epilepsy, the author observes, that besides the paroxysms, many patients are subject to what he calls "faint turns," and that he has never known any recover in whom these occurred. With regard to the cure of the disease, he observes that—

"Relief is not to be attained by any medicine with which I am acquainted, but by diet. The diet which I have directed with success has been almost purely vegetable. I have directed an entire abstinence from flesh and fish, but have allowed the use of milk and butter, and occasionally of eggs. I have thought it necessary to use these last watchfully; that is, in moderate quantity, mixed with farinaceous substances, as in puddings, and at those times only when the health was at the best. I was led into the use of this diet gradually; I hardly remember by what steps. Under the use of it I have seen many recoveries; yet in the larger proportion of cases it has failed."

Similar abstinent diet is recommended in *apoplexy* and *palsy*, or in those with a tendency to these complaints, besides exercise; of course this is not applicable, or not likely to be solely beneficial, in the more severe cases.

As to *facial paralysis*, if there be pain in the case, it is advisable to commence the treatment with "a good leeching or cupping." "But in most cases of the disease I believe that recovery would be spontaneous without treatment." For the paralysis produced by lead, the author has no doubt of the ad-

vantages obtained by the use of strychnia. There is a short but graphic notice of symptoms simulating palsy, which Dr. Jackson calls calls *paralysis mimotica.*

In *chorea*, various tonics, iron, valerianate of zinc, and the shower-bath, have been very successful; "but the great remedy is the oil of turpentine." "It should be given in such doses as the patient can bear. In a very young child you may begin with five drops three times a day; but the dose should be increased steadily until relief is obtained, if no objection occurs." "A child of eight or ten years of age will sometimes bear a teaspoonful for a dose. The remedy is successful whether it be given early or late in the disease."

In *neuralgia*, of course narcotics are valuable, and of these opium is the most certain; but as its effects are often pernicious, others may be tried, and among them Dr. Jackson prefers stramonium. Iron and quina are also beneficial, but the latter requires to be given in large doses. Externally, he prefers the tincture of aconite, but care must be taken to limit it to the part affected.

The Letter or chapter on dentition is a very sensible one, containing, as it does, some very judicious remarks upon the diet of infancy, in which we cordially agree, both as to the quality and quantity. We shall content ourselves with a curious extract on weaning:—

"Children are benefited by living principally on the breast for twelve months; their vigour is evidently impaired in almost all cases when they are nursed less than nine months. The safest period of the year for weaning is from the middle of October to the middle of March; provided they are not weaned under ten months after December, under eleven after January, nor under twelve after February. Children who are weaned at the age of twelve months in March are ordinarily safe; those who are weaned at this age in April are less so, one-half of them, perhaps, suffering severely in the subsequent summer or autumn. In May the danger increases; and in the four subsequent months, if a child of any age be weaned, it will in most cases be very sick before the middle of the October ensuing. The disease does not immediately follow the weaning; though in many cases the diarrhœa of teething children ensues at once. But the instances in which children who are weaned between May and October escape severe cholera infantum, are extremely rare indeed. It must, however, be noted that in some years the seasons are much more favourable to the health of teething children than in others. It must also be noted that the limits which have been mentioned must be varied by particular circumstances. First, the seasons vary two or three weeks in different years; second, something will depend on the constitution of the child."

To a certain extent this applies to these countries, but it is an illustration also of the greater delicacy of infants in America than here. We have cholera infantum here, no doubt, but it neither appears so constant nor so severe as in America. Dr. Jackson considers that the essential nature of this disease is gastritis or enteritis, and in the treatment our object should be, first to remove any offending matter from the stomach and bowels: ipecacuan for the first, and calomel for the second object, are the best. If after the bowels are acted on, the diarrhœa continues, opiates may be used to check the discharge. When this object is attained, our main reliance is upon caution in the use of food.

The observations on bronchitis and pneumonia are very sound. Cold bathing, fresh air, and exercise, are the best preventives. Diminution of food, abstinence from stimulants, and confinement to the house for a few days, will be sufficient for mild cases of bronchitis; whilst for the severer, the author speaks highly of a grain of tartar emetic, taken at bed-time. In pneumonia he approves of bleeding, if the patient be strong and the disease not of more than three days' standing; after bleeding, antimonials, if they are borne well.

The remarks upon the treatment of phthisis are worthy of attention; we agree with the author that a nutritious diet, air, exercise, and comfortable clothing, are of much more consequence than medicine when the disease is threatening. When speaking of hemoptysis, the author points out the necessity of accurately ascertaining its source, and gives some cases showing that spitting of blood may occur without any affection of the lungs. The remedies upon which he relies are sulphuric acid, sulphate of copper and opium, and if the bleeding be obstinate, a very small blister.

We recommend to our readers the chapter on disorders of the stomach and bowels, in which there are practical hints of great value. The suggestions for remedying constipation by diet and exercise are excellent; nor does the author overlook the power of habit, for he observes:—

"Many persons learn for themselves the influence of habit in keeping up the regular action of the bowels, but they do not always learn this before the middle of life. The morning, soon after breakfast, in the majority of cases, is found the most convenient term for this purpose; and almost any one, by a little care, may avail himself of the readiness of the human body to be influenced by habit, so as to fix on such a part of the day as he pleases. Persons who are much troubled by hemorrhoids, or by prolapsus ani, will find it best to get their evacuations just before bed-time. The advantage is, that such persons derive benefit from assuming the horizontal

position for a time after an alvine dejection. I must give a caution connected with this subject. One should not allow himself to strain, nor to hurry himself from a regard to habit, nor for any other reason. In this way he may induce hemorrhoids or prolapsus."

We have thus given a cursory and imperfect sketch of a very good book, which we cordially recommend to our readers. Dr. Jackson has an additional claim on our respect, which we have not hitherto noticed, in his abstinence from over-dosing, and in the wise view he takes of the use of medicines. He states frankly:—

"It is my own practice to avoid drugs as much as possible; and I more frequently find it difficult to persuade people to abstain from using them than to induce them to take them. But I hope that you will not believe me to be distrustful of the power of drugs to do real service to the sick, under proper circumstances. I am far otherwise; and in reference to this point I wish to tell you that your success in the use of medicines will depend somewhat on the temper with which you give them. You must be hopeful and feel an interest in them. Do not, like a cold stepfather, leave them to make their own way in the world, but watch them in their course. You cannot make a fire burn well if you put on the wood with a feeling of indifference. You must study to know the power of the drug you prescribe, the proper dose, and the tests of a sufficient dose; the mode of preparation of the medicine, and then of the patient for the medicine, and all the management requisite for a good result. Do not be in a hurry to give credit to your prescription as soon as the patient shows any sign of amendment, nor be discouraged if relief do not follow as soon as you had anticipated. In the last case, see if there has not been some error in the management of the affair, or if some counteracting cause has not interfered. Do not despair because the medicine has failed on your first trial of it. Try it again before you condemn what has been recommended as beneficial by one well qualified to form a judgment on it."

On the Chemical Analysis of the Tennessee Collection of Urinary Calculi. By E. B. Haskins, M. D. Clarksville, U.S. 1855. Pamphlet, pp. 26.

The interest, not alone chemical but *practical*, as regards medicine and surgery, which attaches to urinary calculi, entitles the small pamphlet before us to receive at least a passing notice. Its author has carefully constructed a table of the chemical analysis of one hundred and seventy-six calculi,

which constitute the collection of those from the human subject in the museum at Tennessee, the information to be derived from which cannot fail to prove useful and interesting.

The most important fact learned from an inspection of the table drawn out by Dr. Haskins is, that free uric acid was the predominant constituent of only four out of the one hundred and seventy-six calculi submitted to analysis.

"The aggregate weight of these four calculi is found to be but eleven grains. One other calculus, with a large nucleus of urates, has a body of uric acid. This calculus weighs but fifty-three grains. In all, five uric acid calculi from two subjects, weighing together only sixty-four grains, whilst the aggregate weight of all analyses, is sixteen thousand and twenty-nine. It will be further observed, on looking over the table of analyses, that free uric acid appears but sixteen times, inclusive even of its presence in smaller quantities with other constituents, and yet my analyses were made in a manner to extract any appreciable quantity of this substance."

We know that in Great Britain, as well as in most, if not all, the Continental countries, uric acid calculi are the most common variety met with; and why there should then be so remarkable a difference in this respect in parts of America, may form a subject for interesting speculative reasoning. The peculiarity alluded to is not confined to the spot which has been made the field of Dr. Haskin's observations. It would appear that Dr. Peter obtained nearly similar results from the analysis of the Transylvania collection.

In order to determine the bases of the urates found in the calculi, the author made eighty-four analyses with the following results:—

"Ammonia was found in eighty-four. Lime was associated with ammonia in eighty-three. Soda was associated with the ammonia and lime in fifty-five, and soda was associated with ammonia alone in one.

"As a very constant result, the ammonia largely predominated over both of the other constituents. The lime was not only more constantly found, but generally existed in larger quantities than the soda.

"Since completing these analyses, I find it stated in the learned work of MM. Robin and Verdeil, upon the authority of Drs. Bigelow and Smith, that contrary to what has been generally thought, magnesia is quite common in urinary calculi.

"It may be proper here to state, that notwithstanding I found the urate of magnesia but once in the twelve analyses of the urates, and therefore, ceased to regard it subsequently; yet my researches can by no means be taken as decisive against the frequent presence

of this salt in calculi, even of this country; further trials may have greatly changed my results.

"It has generally been thought that lime exists very rarely in vesical and renal calculi as a urate; but its presence is seen to be almost as constant in those submitted to analysis by me, as that of ammonia.

"I am not prepared to say that the very constant presence of urate of lime, as an associate of urate of ammonia, is peculiar to the calculi of this country, or rather those examined by myself, since I have seen no researches of any extent directed to this point; although authors speak of its infrequency with no little degree of confidence."

The author winds up his small work by a few observations on the origin of urinary calculi. He takes a view of this subject exactly the reverse of what has been generally entertained, but not, we confess, without offering forcible reasons for so doing. He maintains that *few* calculi owe their origin to general causes, the great majority arising from local sources—"that the *latter* constitutes the law, the *former* the exception." The arguments he adduces are two-fold: first, that those who suffer from urinary deposits do not exhibit any *special* tendency to stone; second, that the recurrence of calculus after successful extraction is rare. These two arguments added to a consideration of the results obtained by Dr. Haskins from an examination of one hundred and seventy-six calculi no doubt warrant, to a certain extent, the conclusion he has come to, and strongly induce us to lean to his opinion. But then a strict criticism of the arguments and reasons advanced show that they are far from being conclusive, and that they can be explained satisfactorily on the opposite supposition to the one Dr. Haskins has embraced. For example, may not, as in other instances of disease, many be pre-disposed to calculi who do not become the subject of them simply from the absence of the local cause necessary for their formation—the local being, as it were, the *exciting* cause of the complaint?

But we cannot pursue this subject farther, interesting though it be; to do so with any justice to either side of the question would occupy far more space than the few pages which constitute the pamphlet here noticed would warrant. In conclusion, we have merely to observe that, small as Dr. Haskin's work is, we see in it a useful contribution to surgery, one which may constitute the basis of more enlarged and perhaps original views whenever a more extensive field for research is offered.

PART III.

MEDICAL MISCELLANY.

TRANSACTIONS OF THE ASSOCIATION OF THE FELLOWS AND LICENTIATES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

SESSION 1855–6.

FIRST MEETING, NOVEMBER 7TH, 1855.

DR. LEES detailed the following history of a case of *Chronic Diuresis*, which came under his care in the Meath Hospital.

Lawrence Kenny, aged 27, married, a sailor, from Arklow, was admitted into the Meath Hospital on Friday, October 5, 1855, complaining of insatiable thirst, increased secretion of urine, sinking and gnawing sensation at the stomach, along with general debility, and some emaciation.

He states that early in July (about the 4th inst.), he was exposed to "a heavy beating sea" (the water washing over him for some hours, during a sudden squall, while fishing at a considerable distance from the coast), which confined him to bed, for some weeks, with a severe cold in his head and pains in his joints; and, on his recovery from the attack, a stuffed feeling in his nose and head, with loss of smell, remained, together with an unusually large and continued flow of urine; the latter, gradually increasing *pari passu* with an annoying thirst.

On consulting a practitioner, he was given some pills which "*loosened every tooth in his head, and did the rest of him little good.*" As the harvest season had now commenced (about the second week in August), he took part in the field labours, and would invariably carry with him two pailsful, daily, of buttermilk or water to allay his excessive thirst during work, which, along with the increased flow of urine, was all that he complained of.

He presently began to lose strength and flesh, and his skin became very dry, so that he consulted another practitioner, who advised

his coming to Dublin, when he was admitted into the Meath Hospital. His appearance, on admission, was that of a strong man. His skin was very dry, and his tongue also dry and furred; pulse 76; there was no physical sign of disease in the thorax or abdomen. The urine passed in twenty-hours amounted to 432 ounces, of a specific gravity of 1002·0 ; it was feebly acid, of a very pale straw-colour, and deposited a minute sediment of mucus. A careful examination was instituted by Mr. Leet, but not a trace of sugar could be detected. The treatment consisted of Dover's powder at night, and nitrate of potash in the day, with warm baths, which induced perspiration; but this did not improve the symptoms, though, at the same time, the diet was carefully attended to. He was now put on a mixture of 20 grains of oxalic acid, liquor of potash, 1 drachm, water, 8 ounces—an ounce to be taken three times a day. He was also allowed a pint of porter daily; under this treatment he improved greatly; his thirst had nearly ceased, and the report of October gives the following account.

October 22nd. Looks much better, has got up some flesh, and wishes to return home. The skin is moist, bowels are open, and the tongue clean. On October 23rd he was discharged; having promised to observe a careful diet, and drink XX porter instead of spirituous liquors.

A Table showing the exact amount, specific gravity, and weight of solids in this patient's urine, from October 6th to the 22nd inst., was exhibited by Dr. Lees as follows:—

Normal standard in 24 hours—sp. grav. = 1018·0; solids = 610; fl. oz. = 35.

	Fluid Ounces in 24 Hours.	Specific Gravity.	Weight of Solids[a] in Grains.
October 6,	432	1002·0	1080
„ 7,	360	1001·5	720
„ 8,	370	1003·0	832
„ 9,	320	1002·0	800
„ 10,	260	1002·0	650
„ 11,	220	1002·0	550
„ 12,	195	1002·0	487
„ 13,	150	1004·0	450
„ 14,	170	1003·0	382
„ 16,	200	1001·5	400
„ 17,	135	1003·0	303
„ 21,	100	1006·0	400
„ 22,	75	1009·0	412

Dr. Neligan said, that he was able to add another case of this rare disease—*Diabetes Insipidus*—to the interesting one now recorded by Dr. Lees. It was that of a beggarwoman, aged 60, who had been

[a] The solids are calculated (to a quarter of a grain) from the amount of solid residue obtained from one evaporated ounce of each specimen. For this tabular statement Dr. Lees was indebted to Mr. Charles Henry Leet, Jun. Not a trace of albumen or sugar was detected in any specimen.

admitted into Jervis-street Hospital, stating that she had laboured under the affection for more than six months, but that she suffered scarcely any inconvenience from it; nor would she seek now for advice, were it not that the calls to pass water being so frequent interfered much with her trade, that of a street-beggar. The quantity of urine passed in the twenty-four hours was eight quarts; it was limpid, nearly colourless, faintly acid, and of the specific gravity 1·002, being but little heavier than distilled water; it contained, he need scarcely say, no sugar, nor did it present any traces of albumen; in fact, it only differed from healthy urine in containing a great excess of water. This woman's thirst was increased, but not to any very great extent, nor had she any craving for food; she was very much emaciated; her skin was dry and shrivelled; and her mouth always parched. She remained in hospital for three weeks only, during which time the quantity of urine had decreased to five quarts; but its specific gravity did not become higher. She seemed to derive most benefit from powders containing uva ursi, the dried carbonate of soda, and Dover's powder, with a chiefly vegetable diet.

Dr. Banks briefly brought under the notice of the Association the leading facts connected with the history of a case of *Pneumothorax with Effusion*, which he had, on a former occasion, detailed. The case was one of much interest, and he was now in a position, having occasionally seen the man in the interval, to connect his former illness with that which lately had a fatal termination. Dr. Banks reminded the Association, that he had stated the result of this case, led him to agree with Dr. Hughes, of London, in looking upon perforation of the pleura as by no means so necessarily fatal in its consequences, as might be supposed, were physicians to be guided by the statements made by some of the most distinguished of their Continental brethren.

Dr. Banks referred to the following remarks:—"The case I have detailed is highly important, as well calculated to strengthen our faith in the reparative powers of nature in this disease. It appears to me that, in this instance, there has been an arrest of the morbid action; and from the perfect freedom from physical signs and general symptoms of phthisis—now at the expiration of nearly three years from the invasion of pneumothorax—I see no grounds for being sceptical as to the recovery being permanent."

From the time Smith was discharged from the Whitworth Hospital (June, 1852), up to a short period before his late admission (August 29, 1855), he had enjoyed his usual health, with the exception of occasional bronchitic attacks. He had laboriously pursued his occupation, which obliged him to be exposed to cold in all kinds of weather.

When received into hospital—exactly four years since his former admission—he said his health had been excellent until the 10th of the month. The cause of his present illness he believes to be exposure to wet and cold while painting the outside of a house. His

breathing soon became oppressed, and he was troubled by cough day and night; he also, shortly before coming into hospital, laboured under diarrhœa. From this time he rapidly declined in strength; emaciation was progressive; lower extremities œdematous; cough attended with profuse expectoration nummular in character, with a trace of blood; diarrhœa unchecked; night-sweats confined to the head and shoulders. Pulse small, 96 in the morning, and rising to 104 in the evening.

A fortnight after admission, while in the act of stooping to get a "pot de chambre," he felt something give way suddenly, or burst in the left side; his breathing became excessively short and difficult, and he experienced an agonizing pain in the side; he could not at first lie down.

After the lapse of a little time, he expectorated a considerable quantity of purulent matter; but, contrary to his former experience, it was not followed by any relief to his distressing symptoms. Decubitus on the left side and sometimes on the back; inability to rest on the right side, even for a moment. Respiration, 42 in a minute. The impulse of the heart visible about two inches from its normal position, upwards and towards the right side. To the eye the left side was evidently the larger of the two; the intercostal spaces were completely obliterated; and it was almost motionless during respiration. On percussion the infraclavicular space was dull, but everywhere else the left side was tympanitically resonant. On measuring the chest the left side exceeded the right by $2\frac{1}{2}$ inches. Bronchial breathing and pectoriloquy were audible; under the left clavicle and beneath the angle of the scapula metallic tinkling and amphoric blowing were present. The splashing sound was plainly heard on succussion. On examination of the right side by percussion, the resonance was normal, except over the supra-scapular region, and in this situation there was bronchial breathing, with occasionally a mucous rale; elsewhere the respiration was puerile. The progress of the case to a fatal termination was uninterrupted; the patient was exhausted by diarrhœa, night-sweats, and purulent expectoration. It was worthy of notice that the profuse expectoration occurred chiefly on alternate days. The fluid came up without any effort, and there was little cough; by stooping, or hanging his head, he had always the power of producing profuse expectoration. Diarrhœa continued until his death, which occurred on the 15th of September.

Autopsy.—On opening the thorax two quarts of purulent matter were found in the left pleura; the lung was collapsed, and carnified in parts, covered with a dense layer of lymph, its apex adherent to the walls of the chest, and a cavity was found in this situation. The whole lung was not much larger than a closed fist; a small fistulous opening existed posteriorly, corresponding to the third rib; the left lung was generally congested, and at its posterior apex there was a tubercular cavity.

Dr. Banks contrasted the case which had been under his obser-

vation with other cases in which life had been prolonged to a considerable period after tubercular perforative ulceration of the pleura.

"In a case of Dr. Bird's, related by Dr. Hughes, the patient lived 3 years and 2 months; a case of Dr. Barlow's, 3 years. Dr. Hughes informs us one patient under his care lived 3 years; and another, 1 year and 13 months.

"In thecase now recorded the first perforation of the pleura occurred on the 29th of June, 1851; the second, on the 28th of August, 1855; and death, on the 15th of September; the duration of life from the event of perforation of the pleura being 4 years, 2 months, and 17 days."

Dr. Banks observed, in reference to the termination of the case, that he saw no reason to change the opinion he had given at the former meeting of the Association—viz., that there had been an arrest of morbid action after the first perforation, and the fatal issue he considered due to a *second* invasion of tubercular disease, which, unlike the former, was not confined to one lung.

Had the patient been in another rank of life, and placed in circumstances favourable to the preservation of health, it may, with much probability, be assumed that the disease to which he fell a victim would never have reappeared.

Dr. M'Clintock exhibited a fœtus, with its placenta and membranes, which had been blighted about the third or fourth month of gestation, and been retained in the uterus till the full term, when it was expelled along with a full-grown living child. Cases of this kind, he remarked, were not very uncommon,—Dr. M'Clintock having seen several such examples of twin pregnancy; but in no instance had the dead embryo perished at so early a period as in the one now exhibited. It had evidently been subjected to considerable pressure, as it was very much flattened and compressed. On careful dissection its proper membranes were discernible, but they contained no liquor amnii—a circumstance of much physiological interest, as tending to identify the amnion with the class of serous membranes, by showing that it can perform the function of absorption; whilst of its power of secreting we had abundant proof in cases of hydrops amnii. That it can, too, produce an altered or depraved secretion, we occasionally see in cases of tedious labour.

The placenta in the case now communicated had undergone considerable alteration. It was thin, firm, and of a yellowish-pink colour, totally unlike the structure of the healthy organ. Some small portions of it were examined under the microscope, and found to contain an abundance of fat globules.

Second Meeting, December 5th, 1855.

Dr. Aquilla Smith referred to some of the preparations of the last Dublin Pharmacopœia, amongst others, Syrup of the Iodide of Iron, Solution of the Pernitrate of Iron, and Granulated Sulphate of Iron, which had been stated very commonly in the shops to be very

difficult of preservation. It was evident, he said, that this must arise from some fault in their manufacture, as he now produced specimens which had been made more than five years ago, when the Pharmacopœia was in preparation, and which retained their properties and appearances unchanged, although no special means had been taken for their preservation.

Dr. Hughes read the particulars of a case of abscess situated posteriorly, in the inferior lobe of the left lung:—"A young man, twenty-three years of age, was admitted into Jervis-street Hospital on the 18th October, 1855, extremely debilitated and exhausted. He was not alone pale and anemic, but the face was slightly œdematous, and the lower extremities anasarcous as high as the pelvis; he was greatly emaciated, and his breathing was short and hurried. He complained of pain in the left side, increased by coughing; he lay upon the opposite side, and could not attempt to change his position. The cough was not very frequent or troublesome. But the expectoration was purulent, moderate in amount, and perfectly free from fetor. There was complete aphonia; the appetite was gone, and the tongue slightly coated and red at the edges. His pulse was excessively feeble, beating 78, and increasing to 110 at night, when sweating occurred. The urine was scanty, and deposited the lithates. About four months previous to admission, this man was in perfect health, and employed as mower. One day, while so engaged, he received a severe wetting and was unable to dry himself or change his clothes until his day's work had terminated. Next morning he felt unwell, was chilly during the day, and in the evening was seized with rigors, followed by pain in the left side and cough, notwithstanding which he resumed his occupation, and continued at it for a fortnight longer; during which period the pain continued and the cough increased. He could not shake off his illness, and in the third week he found himself very much debilitated, and no longer able to work; he now perceived that his expectoration was discoloured, and for the three weeks subsequently, he spat up daily more or less pure blood. Three weeks prior to his admission he lost his voice, and had a severe attack of diarrhœa, which had not as yet subsided. The anasarca first appeared about a fortnight before admission. The general appearance and condition of the patient would, naturally enough, lead one to the conclusion that the case was one of ordinary phthisis in its last stage. Such was my first impression, and I expected to find physical signs confirmatory of it. I thought we should have large cavities in the superior lobes of one or both lungs, and the usual stethoscopic phenomena.

"On making a physical examination, however, I was not a little surprised to find the apices of both lungs perfectly clear on percussion and with the normal respiration. The right lung was clear throughout, and the left as far down as the fifth rib. Below this on the left side there was dulness on percussion; crepitating rales were easily heard with occasional gurgling over a small space in the in-

frascapular region of the same side, and here also pectoriloquy was audible. It was quite plain that there was a cavity hereabouts. The question then arose as to its nature: was it tubercular or pneumonic? In other words, had the patient a chance of escape? The early history of the case, the sudden invasion, the pain in the side with cough, and now the situation of the abscess at the base of the lung, with limited dulness, made me strongly incline to the opinion that it was pneumonic. But then the hemoptysis, aphonia, diarrhœa, and the wasting, were strongly in favour of its being tubercular. The character of the expectoration did not tell either way, for we know pneumonic abscess may be present with or without fetor, and so also may a tubercular one. Dr. Banks has lately recorded a case of tubercular infiltration and abscess limited to the base of the right lung, in which there was purulent expectoration, with extreme fetor. The patient did not, however, suffer on account of the difficulty in diagnosis, for whatever difference of opinion might exist as to the nature of the abscess, there could be none as to the treatment. There was only one course to pursue, and that was obvious to all, to support the system by every possible means. This was done by the administration of wine and other stimulants, together with nutritive food. Every effort to save proved ineffectual, the patient gradually sank, and died six days after admission. *Autopsy.*—On opening the thorax, the right lung was found to be free, but the left adhered to the parietal pleura posteriorly, and on removing it we found the abscess exactly where the physical signs indicated its presence, viz., on the posterior surface of the inferior lobe of the left lung; its contents were quite close to the surface in this situation, and were evidently prevented from being effused into the pleural cavity by means of the adhesion of both serous layers in its immediate vicinity. The cavity of the abscess was about the size of a walnut. It was not lined with a membrane, but its parietes were formed of condensed lung, and it had free communication with the bronchial tubes; it was a single abscess, about one inch in depth, and was crossed by a single band. The entire of the inferior lobe was dense and solid, having scattered over its surface in some places a few crude, yellow tubercles, about the size of a small split pea, and these extended upwards as far as the inferior part of the upper lobe of the lung; a few also were found on the opposite side, but the apices of both lungs did not contain a single particle of tubercular deposit. A section of the lower lobe of the left lung showed condensation of its parenchyma, with partial infiltration of small granular tubercles; but there was not found breaking down of its tissue, saving only in the abscess described. There were both pneumonic induration and tubercular infiltration—the one appeared to be passing into the other, and it was difficult, if not impossible, to define their limits; however, the consolidation was greatest in the lowest part and around the abscess.

"Supposing this to have been originally (as I believe it was) a case of pneumonia assuming a chronic form, becoming associated

with tubercle, and progressing to the formation of abscess; there would be nothing very uncommon in it, still I apprehend every case where abscess forms in the lung, an organ so essential to life, must interest the practical physician, and he will be anxious to see with what conditions it may happen to be associated, and to learn what may have been its history; unfortunately, the latter is not always as complete as we could wish.

"This case, I think, shows us how a disease, which ordinarily yields to treatment, may when neglected (as in this instance) produce those local changes and that peculiar state of the constitution, which favour the accession of another, I may say, incurable disease, namely, the deposition of tubercles."

Dr. Hughes exhibited the morbid specimen, and a coloured drawing of it in its recent state.

Dr. H. Kennedy related the following case of *Stricture of the Larger Intestine*, at a situation corresponding to the junction of the sigmoid flexure with the rectum, which he had been induced to bring before the Association, not because it offered any features of peculiar interest, but on account of its belonging to a class of diseases of the most serious nature, concerning which much had yet to be learned, and in the treatment of which but a partial relief—and that of the most trivial nature—could be afforded.

The case was one of intestinal obstruction, which came under Dr. Kennedy's care during the past summer, whilst doing duty in Sir Patrick Dun's Hospital for Dr. Smith. It was seen by Drs. Duncan, Neligan, Law, Lees, and others, and had been sent into hospital by Dr. Nalty.

"Carty ——, a servant, fifty-four years of age, reported to be of temperate habits, was admitted on Wednesday evening, June 20, 1855. For one week previously, he had observed that his bowels were becoming confined, and for this he had, of his own accord, taken three doses of medicine—including oil and Epsom salts—but without effect; he then had recourse to an enema, which acted slightly, but did not completely relieve him. This partial motion occurred five days prior to his admission, since which his bowels had not been moved. The abdomen was now tense and tympanitic, but not painful, even on strong pressure; nor could any deep tumour be felt. There was no hernia. The pulse was only 60; but the tongue was furred. The kidneys had acted freely. The face presented no trace of anxiety whatever. For the two following days every effort was made to relieve the bowels, but in vain. Amongst the various measures employed I may mention galvanism,—one bleeding from the arm, and the repeated use of the long tube; which latter, be it remembered, was passed, without any difficulty, a distance of sixteen inches. Two days after his admission the symptoms had become most serious. Besides the increase of those already noticed, he had now the most incessant vomiting, a mouthful even of cold water not remaining an instant on his stomach; he had hiccup also, and his

pulse had risen to 96. The vomited matter now consisted mainly of dark-green bile; and it is particularly worthy of note, that very much more fluid was ejected than had been swallowed. On two occasions I saw ejected what is known as black vomit, and this was on the third day from his admission, and the eighth after any sign of fæcal matter had come away. On the evening of the eighth day, and after the use of an enema, of which aloes constituted a great part, the bowels acted slightly; a small quantity of liquid fæces came away, and this seemed to alleviate materially all the symptoms; for, on the next morning, it was found that the vomiting had ceased, the abdomen had become less swollen, the pulse had fallen to 80, and he had taken, with relish, some bread and tea before my visit. In this comparatively improved state he remained four days, having vomited but once in the interval, and that possibly owing to his having taken too large a quantity of beef-tea at one time. Still, during this period, no further evacuation took place, nor did the abdomen lose any considerable amount of either swelling or tension. In fact, there was a lull in the symptoms, without any marked subsidence of them.

"Now commenced what might be designated the second phase of this case. Though every effort had been made to relieve the bowels, they continued completely stopped for a period of fourteen days; and, during this time, he had vomited little or nothing. He had, however, fits of pain, especially at night, and on more than one occasion I could feel the sensation as if a tumour existed, but it was so fleeting, and its position so changeable from one part of the abdomen to another, that I concluded it could only be a portion of intestine thrown into momentary spasmodic action. It will be readily understood that, with such complete obstruction, the symptoms became very urgent; and so, with the exception of the vomiting, they did. At the end of the fourteenth day the swelling had become enormous, and just at this time the bowels once more yielded, owing, apparently, to the exhibition of copious injections, composed chiefly of fetid tincture, and suggested by Dr. Smith. They were twice moved: once during the evening of the thirteenth day of the second attack, and again, much more largely, on the following day. The dejections were of a lighter colour than natural, and more consistent than could have been expected under ordinary circumstances. This was attended with a very marked improvement of all the symptoms; and, amongst these alleviations, I would particularly notice the state of the abdomen, which became soft, and much more reduced than at any period since the attack began. Still it was not reduced to a perfectly natural state. The man was able, in a day or two, to be up and about; his tongue cleaned; his appetite returned; and he felt so much improved in a little while longer, as to request permission to leave the hospital, so that he was discharged on July 20 (one month exactly from his admission), with a recommendation to return in case he did not continue in good health, for there was still enough about the feel of the abdomen to leave me doubtful as to his com-

plete recovery. The event proved as I had suspected, he having again applied for admission, thirteen days after his discharge. The third and last phase of the disease had now begun. The bowels again became obstructed, and no means employed were of any avail; nor had the patient any evacuation whatever during the rest of his life; which was prolonged for six weeks, reckoning from the last time he came into hospital. During this period no very particular symptoms disclosed themselves. The swelling and tympany slowly increased, so as ultimately to distend the abdominal walls, both laterally and anteriorly, to the utmost limit. The patient had very little of what could be called real suffering; he laboured more under a state of distress; and this, by means of opiates and stupes, it was always possible to relieve. Vomiting occurred occasionally, but days elapsed without any, though few passed without more or less spasmodic action of the bowels, which at times gave rise to a sensation of the existence of a tumour, or even tumours; but these symptoms, however, were not permanent. The pulse, all through, ranged between 80 and 90, and the expression of the countenance remained wonderfully calm, that of suffering being quite the exception. The tongue was always slightly furred, but moist. The man very rarely lost his night's rest. He was able to take fluid nourishment and bread throughout the entire of his illness.

"It can be easily understood that, under such a state of affairs, this man's strength became slowly undermined, but it was very gradual; so also was the emaciation; still each progressed, and the patient ultimately sank, having complained of dyspnœa for a day or two previous to his death. It should be mentioned, that ten days before death, Mr. Lucas—the apothecary—stated to me, that he was unable to pass the long tube, as had been done on numerous occasions: at this time, however, his strength was so far gone, that no further notice was taken of the fact, and it remained for post-mortem examination to clear up the obscurity of the case.

"On opening the abdomen the bowels were found enormously distended, more especially the colon; and, after a good deal of searching, we found the cause of all the symptoms. In the left iliac region, at the termination of the sigmoid flexure of the colon, the intestine was observed to be suddenly constricted. It was precisely as if a cord had been tied tightly round the gut, and reminded me strongly of the pack-thread stricture of the urethra. As viewed on the serous surface there appeared to be literally no organic disease whatever; but through the coats of the intestine, and situated just above the stricture, was seen a dark stain, which, on the mucous surface, gave the idea of an abrasion, and which—had the patient lived longer—would, most probably, have gone on to ulceration, and possibly perforation. On the mucous surface, also, close to the abrasion, was found a small fungus-like mass, about the circumference of a shilling, having a cupped surface, and attached by a sort of neck to the walls of the bowel. This mass, there can be no doubt, was of a malignant character, being just the texture which soft cancer presents. The

stricture itself may be described as being impermeable. Drs. Smith and Lees saw me try it with water, both from above and below, and not a single drop passed through. There was not a trace of disease found in any other part examined.

"Such are the details of a case on which a few remarks will probably not be considered out of place, the more so, as the patient may be said to have been under notice from the beginning to the end of the disease.

"The entire duration of this case was nearly three months, or one week short of that period. And this would appear to be an important fact, as showing the time in which a formidable disease of the kind described may not only develop itself, but go on to the destruction of the patient. I believe that by far the greater number of cases of this nature, on record, occupy a much longer period; hence an exceptional one becomes the more valuable. But if we look into the particulars of the case more closely, we will observe, that the period occupied by the disease was made up of three intervals, and that on two occasions very marked relief was obtained; so much so, on the second, as to lead the patient to believe himself well, to induce him to leave the hospital, and to permit him to remain at home for thirteen days. These lulls—so to speak—contribute very important features in the case, and appear to me well worthy of attention. The first period of obstruction—occupying ten days—is by no means easy to account for, because at that time no difficulty whatever was experienced in the use of the long tube; and the only way I would venture to account for the symptoms would be that, *in addition to the commencing stricture*, the ordinary form of obstruction of the bowels also existed; inasmuch as we know, that cases of this kind, without any organic lesion whatever, are of common occurrence, and may even go on to such an extent as to cause death. At any rate, whatever the explanation be, it is certain that the most serious symptoms of obstruction existed at a time when the lower bowel seemed perfectly free. And it is particularly worthy of remark, that at no subsequent period were the signs of obstruction so urgent as at first. In fact, within the three first days of his admission to hospital, the symptoms were all those of a man labouring under acute strangulated hernia, not a mouthful even of cold water being retained for an instant. And as a contrast to this it may be mentioned, that in both the second and third stages, even till his death, vomiting very rarely occurred; though at this time, we must suppose, the stricture had made much progress. Possibly the explanation of this is, that the stomach had become accustomed to it; for it is truly remarkable what the system will bear, provided the disease, whatever it be, is only slow in its progress,—and the remark applies to the head, chest, or abdomen.

"The spastic state into which the intestines were often thrown is worth attention. I am satisfied that, on several occasions, a mistake might have been committed by any one seeing the patient but once, on account of the deceptive sensation as to the presence of a per-

manent tumour. On another occasion I drew special attention to this fact as regards the diagnosis of disease of the stomach, and, I believe, showed that a tumour of this kind may exist for months, and disappear subsequently.

"The kidneys, it may be observed, acted freely from first to last, and so far the case bears out the observation of a London physician —I think Dr. Barlow—who, in an able paper on the subject, states, that the site of the obstruction may be made out, with tolerable certainty, by attending to the amount of the secretion from the kidneys. According as it is free and copious, the obstruction is the lower down; and *vice versâ*. This observation, if true, appears to me one of great importance.

"On the diagnosis of the case, I must say, I was quite at fault; my own impression being, that it was one of intussusception. It resembled most the instances of that disease which I had seen; and the fact that the bowels had twice yielded, and at considerable intervals, seemed to be explained best on this idea. Neither did the absence of any distinct tumour—which was felt in all the examples I had seen of intussusception—militate against the idea; for at no period of the disease was the tympany so trivial as to allow of a complete examination of the abdomen; and, therefore, a tumour might have existed, which it could not be possible to feel. That it was possible for the real disease to have been diagnosed during its earlier stages, I do not believe. But, on the other hand, it is certain that it might have been made out before Mr. Lucas reported having met with an obstruction whilst using the long tube. At that period, however, and, indeed, for some time previous, the patient was so obviously sinking, that no special means were taken to render the diagnosis certain; and so the evidence afforded by the tube was neglected. The stricture, it will be observed, was entirely beyond the reach of the finger; I having examined the rectum, in this way, on different occasions. The obstruction was about seven inches up, and may be said to have been situated where the colon ends, and the rectum begins. I have noticed this point in the diagnosis, because in France different cases of obstruction have occurred where the sigmoid flexure has been opened from the back. The malignant character exhibited here, however—supposing the disease to have been accurately made out—would, I rather think, have put out of the question such an operation.

"With regard to the treatment, I have only to say that, from the very beginning, opium, in one form or other, was freely given; and, as I believe, with good effect; so far as affording relief, and inducing sleep were concerned; it also seemed to husband the strength of the patient, and in this way prolong life."

Dr. Neligan made some remarks on the treatment of true *Porrigo*, and referred to numerous cases which had remained well for several years, and in which the hair had grown fully, in proof that the plan he originally proposed was perfectly successful in

producing a permanent cure. This consisted in the local application of poultices, and carbonate of potash in solution and ointment, to remove the crusts in the first instance; secondly, the employment of iodide of lead in ointment, under an oiled-silk cap; and thirdly, the constitutional remedy, continued for at least three months—namely, preparations of arsenic, especially the iodide. He condemned unequivocally, as being not only cruel, but unnecessary, the avulsion, or total removal of the hair from the bulbs, as recommended by all French and Continental dermatologists—a barbarous practice, not even certain in its results: and he finally referred to the singular fact of this affection of the scalp being confined to the lower classes, at least in Ireland, as in an extended experience he had neither seen nor heard of it amongst the children of the more wealthy, while eczema, impetigo, and herpes of the scalp were equally common among both.

Third Meeting, January 2nd, 1856.

Dr. Aquilla Smith, in continuation of his communication at the previous meeting, exhibited several other preparations made in 1849 and 1850 according to the formulæ in the Dublin Pharmacopœia, in order to prove that they had stood the test of time without undergoing any change. He spoke also of the use of honey in pharmacy, and stated, that it was an essential ingredient in the aromatic confection, which would, in a short time, become hard and crystalline without this addition. The confection of sulphur would, in like manner, become hard and crystalline, and the colouring matter of the saffron would be speedily discharged, if honey was not added. He also showed that honey which has crystallized may be rendered clear and fluid by heating it gradually, and that it will remain fluid for a considerable time after.

Dr. Hughes brought forward the two following cases of *Cancer of the Liver*, both of them presenting striking examples of the disease, one terminating in an unusual manner.

"Case I.—Matthew Hayden, aged 50, married, and of temperate habits, and by occupation shopman to a broker, was admitted into Jervis street Hospital on the 26th of September last. He stated that he had enjoyed ordinary health till about nine months previous to his admission; he confessed, however, that he had been troubled with dyspeptic symptoms for some time before, though it was at that time especially when these became marked and troublesome. A variable appetite, irregularity of the bowels, flatulence, drowsiness after meals, sour eructations, and other evidences of deranged digestive organs, had occurred, and his health had declined; he continued at his employment, notwithstanding, up to three months before his entrance into hospital, when, for the first time, he noticed a permanent fullness and swelling in the epigastrium; he also found that his legs enlarged after walking; and that the swell-

ing gradually ascended to the thighs and lower part of the abdomen; at the same time he felt pain in the right shoulder, had constant nausea, was rapidly losing flesh, and was quite unable to pursue his usual avocations. The symptoms giving rise to alarm, he sought medical aid.

"On admission he appeared very cachectic and emaciated, but was not jaundiced; the countenance wore an anxious expression, yet he did not suffer pain. His spirits were greatly depressed; his appetite was bad, and he was affected with frequent nausea; the bowels were generally confined. The skin was remarkably dry, loose, and wrinkled over the face and upper extremities; the mucous membrane covering the lips and gums was morbidly red, and the teeth were decayed; the tongue was moist, slightly coated, and red round its margin. The urine was scanty, high coloured, and deposited a pink sediment; it had an acid reaction, and a specific gravity of 1020; his pulse was 74, weak and compressible. For some nights he had perspired a good deal about the head and shoulders; and this symptom was preceded by a feeling of great sinking and exhaustion; he slept well.

"On examining the abdomen a large tumour was found to occupy the epigastrium, and both hypochondriac regions, extending downwards below the umbilicus, and to the crest of the right ilium. This could be easily recognised as the liver greatly enlarged, uneven on its surface and studded with projecting tumours, was readily felt through the thinned abdominal parietes. The liver was somewhat tender on pressure; had attained its present size within the last three months, and the large mass could be seen moving up and down with each act of respiration. Although the belly was distended, yet no fluctuation could be detected. His chest was healthy. His usual posture in bed was on the back with the shoulders very much elevated; any other position rendered him uncomfortable, and interfered with his breathing.

"Such was this man's condition when received into hospital, and while under observation the disease progressed steadily. From week to week we could mark the increase of the liver and notice the development and growth of the tumours on its surface, the constitutional symptoms remaining the same.

"A month subsequent to his admission, the liver had increased considerably, and the tumours had become more prominent; yet the tenderness on pressure was not very great, and the anasarca had remained stationary; nausea, however, was more frequent; there was occasional vomiting, and perspiration occurred sometimes at night. At the termination of another month the nausea and vomiting had become very troublesome, emaciation had progressed very rapidly of late; the night sweats occurred more frequently, and the pulse was reduced to an extremely weak state. The liver had now attained an enormous bulk, and the tumours had approached nearer to the surface. The matters discharged from the stomach consisted of sour, watery fluid, containing undigested food. For the last few

days of this period he was attacked with bronchitis; the expectoration was considerable, but got rid of without much effort. The anasarca had rather diminished. From this time he gradually sank, and died on the 11th December, two and a half months after his admission..

"There was a remarkable feature in this case with regard to the appetite, viz., the patient had the greatest desire for animal food, and could not control his craving for it, although he was sensible that a farinaceous diet agreed best with him.

"*Autopsy, twelve hours after death.*—On opening the abdomen very little fluid escaped from the peritoneal cavity; the liver filled the greater portion of it, and that organ was of very great size, and presented a striking specimen of cancerous deposition. Its anterior surface was covered with tubera of different sizes and growth. Most of them were distinct, circular, having an elevated border and a depressed centre, and presented an opaque white colour; others were of an irregular shape, and very large at the thick margin of the liver, but still the central depression was well marked. Some, again, were more prominent, spherical, softer to the touch, almost fluctuating, and highly vascular.

"It was on the posterior surface, however, that the tubera had attained their greatest size; here they occupied the place of the natural structure, and one of them covered the whole surface of the left lobe. On making a section of the liver the cancerous masses appeared to coalesce and constitute its entire bulk, as very little of the parenchymatous texture could be perceived. The cut surface resembled very closely the appearance presented on making a section of the brain. The liver, together with its tubera, weighed eleven and a half pounds. There were no adhesions between the surface of the organ and the abdominal parietes; and there was no trace of inflammation on its peritoneal covering, although the projecting tumours distended that membrane considerably. The stomach was very large and half filled with fluid; its pyloric orifice was surrounded with cancerous deposit, and the lesser curvature contained a similar deposition, while its mucous membrane was of a dark red colour near the lower end. The disease was found to have implicated the lungs, inasmuch as they contained both on their surfaces and through their substance minute granules not larger than a pin's head, which were considered to be of a cancerous nature. The kidneys were healthy, but the spleen was smaller than natural.

"I have been induced to dwell upon this case for two reasons: first, because it afforded the best pathological specimen of encephaloid cancer of the liver I had ever seen; and, secondly, on account of its presenting a striking contrast to the next I shall detail, which latter differed from it in many particulars, although the disease was identical in both.

"Case II.—Anne Murphy, unmarried, aged 36, was received into hospital December 1, 1855, presenting all the appearance of one suffering from organic disease. Her countenance was sallow,

anxious, and distressed; she was emaciated, and her legs were œdematous; the skin was dry; the conjunctivæ were deeply jaundiced, and she complained of nausea and vomiting, with loss of appetite. She pointed to the abdomen as the seat of all her distress, but suffered no acute pain.

"On examining the abdomen we found it occupied by an enormously enlarged liver, nodulated and uneven to the touch, extending far beyond the margin of the ribs, even as low as the crest of the ilium on the right side; and, crossing the umbilical region, completely filling the left hypochondrium. There was no pain, but the projecting tumours were tender when pressed. There was some effusion into the peritoneum. The pulse was 90, small and feeble; the tongue was moist and coated; and the urine scanty, and deeply tinged with bile. The stools were clay-coloured. She had some distress in breathing, but no cough.

"The history of this case presented nothing remarkable. The patient had never suffered from any disease except common dyspepsia. She positively asserted that no serious symptom had occurred, and no enlargement of the liver had taken place till within the last three months, when nausea and vomiting became very troublesome, and the liver rapidly increased in size. She also stated that her bowels were generally costive. The progress of the disease to a fatal termination was very rapid, and afforded no time for detailed observations. Peritonitis set in suddenly the day after her admission, so far as we could understand without any assignable cause, and she sank in thirty-six hours.

"*Autopsy, eighteen hours after death.*—The emaciation was not so great as we had imagined. There was well-marked jaundice. The peritoneal cavity contained a quantity of straw-coloured fluid, having flakes of curdy unorganizable lymph floating in it; and the entire serous surface itself was inflamed. The great omentum was thrown upwards, and was slightly adherent to the liver. The peritoneum lining the abdominal parietes, and that covering the intestines, were highly vascular, the interstices between the convolutions being filled with curdy lymph.

"The liver was greatly enlarged; it occupied at least half the abdominal cavity, and elevated the diaphragm to a level with the third rib on the right side; while the left lobe, nearly equal in size to the right, had pushed the heart so far upwards as to cause its apex to have beaten on a line with the cartilage of the fourth rib of the left side. Both lungs were consequently greatly compressed, and the difficulty of breathing easily accounted for.

"From the anterior surface of the liver and its inferior or thin margin several large tubera projected. One of these was very remarkable: of the size of a small orange, it hung by a narrow pedicle from the inferior margin of the right lobe, and rested on the kidney. Others, of various bulk, occupied the free margin and substance of the left lobe; and one, in a situation close to the notch which divides the two lobes, was found broken down and ruptured,

its contents, having escaped into the abdomen, giving rise to the fatal attack of peritonitis. The broken surface of this last-mentioned tumour presented a structure like softened brain mixed with blood. All the other tubera were perfectly whole, round, and projecting; they were soft to the touch, highly vascular on their surface, and, when cut into, a thick creamy fluid was discovered in their centres. Some smaller growths, not larger than a pea, and not projecting beyond the surface, of a yellowish white colour, and more consistent than the large masses, were also to be seen, and a few presented that cupped shape and central depression which characterizes Farre's tubercle.

"The stomach was large and distended; it appeared to be pushed out of its natural position, in a direction downwards and outwards; its mucous surface was pale, and around the pylorus and in the lesser curvature considerable masses of cancerous deposit were present. A large cyst, filled with a creamy fluid, was adherent to the upper margin of the right kidney, but the gland itself was quite sound. The uterus and other internal organs were examined, and found in their normal state. The cranium was not opened.

"It is now generally admitted, and I apprehend there can be but little doubt of the fact, that medullary or encephaloid is the form of cancer which most frequently attacks the liver.

"Dr. Budd goes so far as to assert, that it is the *most common* disease of the liver in this country, amongst those who have never been hard drinkers.

"That the encephaloid form was that present in the cases I have narrated, and that it was identical in both, is, I think, perfectly plain. The tumours in each presented exactly the same physical appearance and characters, still the two cases afforded, in some points, a marked contrast.

"In both cases, I consider the disease was primarily situated in the liver. The *woman* was much younger than the *man*, the former being but thirty-six years of age, or at the earliest period of life in which primary cancer of the liver occurs. In the woman's case the tumours were fewer in number, of more rapid growth, and were softer than in the man's; yet they did not attain the same size; neither was the cancerous element disseminated to any other organ but the stomach; while in the man's case the lungs were infected. Now this is contrary to what we would expect, for if the softer forms of cancer are most favourable for dissemination, remote organs would have a greater chance of being infected in the woman's case.

"The development of the disease differed in the two. In the man the right lobe of the liver maintained its greater proportion over the left lobe, whereas, in the woman, the left lobe was nearly as large as the right, and contained the greatest amount of cancerous deposition.

"In the woman the disease was more rapid than in the man, three months having been the period at which she fixed the commence-

ment of the enlargement of the organ, whereas the man suffered for nine months. This confirms the remark of Dr. Farre, who affirms, that his 'tubera diffusa' (which correspond to this variety of the disease) are more rapidly fatal than the 'tubera circumscripta.' In the man's case the cancerous tumours existed to a greater degree, and attained their greatest development at the thick edge, and in the substance of the liver; while in the woman's they were principally situated at or near the thin edge. Perhaps this circumstance in some degree influenced the result, namely, the rupture of one of the tumours into the peritoneum, and the consequent fatal inflammation, which was the most interesting feature in the case; be that as it may, however, this accident is very rare, for we well know that the liver may, under these circumstances, attain a prodigious size, a bulk larger even than in the man's case just detailed; and at the same time have numerous projecting tubera on its surface, and yet not one of them rupture. I am aware that authors speak of the *possibility* of such an occurrence, but I have not been able to meet with any case, where it had taken place.

"The form of peritonitis was also remarkable. We know that it is not uncommon to find some evidence of the adhesive form of inflammation, such as delicate thread-like bands, connecting the peritoneal surface of the liver to the abdominal parietes; but this extensive and fatal form of peritonitis, arising from the escape of the cancerous matter into the abdomen, is quite different. There was no disposition in this lymph to become organized; had it been possible for the patient to have lived long enough, it would have, in all probability, degenerated into unhealthy pus."

Dr. Moore related the history of two cases; the first he considered to be one of *Idiopathic Tetanus;* and the second a case of *Hysterical Trismus*, after a tedious labour:—

"Sarah Lawlor, aged 34, of a spare habit of body, and haggard and emaciated from want of food, I saw for the first time on the 30th of September, 1854. Her jaws were so closely locked that the point of a knife could scarcely be introduced between them; and in addition to the masseter and temporal muscles, those of the cervical regions were in a state of rigidity. There was present great diaphragmatic uneasiness; the pulse was small and frequent, and the bowels were confined. I also learned that about eight days prior to my visit she had miscarried at the third month, and suffered considerably from the hemorrhage which accompanied the discharge of the ovum. I immediately put her upon small doses of calomel and Dover's powder every second hour; ordered turpentine stupes to be applied to the epigastrium, a blister to the nape of the neck, and a terebinthinate enema to be administered; also beef-tea and wine to be given. She continued to take calomel and Dover's powder during the day, but without any marked effect, and towards evening the feet were bathed in warm water, and the blister, which rose well, was dressed with mercurial ointment. Next morning

the patient was not in the least improved; she complained of great constriction of the fauces and pain on swallowing. Her epigastric pain was still annoying, and frequent spasms hindered her from sleeping; her pulse was still quick and weak, though she had taken a considerable quantity of beef-tea and wine. Towards evening, having found the mouth slightly affected, I directed that the calomel and Dover should be given but every fourth hour, and prescribed the tincture of Indian hemp in scruple doses, with simple syrup as a vehicle, every sixth hour.

"On the morning of the 2nd October I found that she slept scarcely at all, having been continually awakened by spasms, which had not in the least subsided. She complained of thirst; the tetanic expression was remarkable; the pulse 100, and weak. The turpentine enema was repeated, but the tincture of Indian hemp omitted. 7 P.M. The mouth was sensibly affected by the mercury, and she complained of her teeth being sore, and the flow of saliva annoying. The jaws could now be further separated, and the teeth did not overlap so much. She had continued her wine and beef-tea during the day.

"October 3rd. There was general rigidity of all the muscles, particularly the abdominal, down to the toes; the knees were drawn upwards, and she was unable to extend them. The paroxysms were far more frequent, the epigastric disturbance was considerable, and the patient had vomited a good deal; there was slight relaxation of the masseter muscles, but the sterno-mastoids were as stiff as wood; the eyes were more open than yesterday, and there was less retraction of the angles of the mouth. She complained this day of great pain shooting in a direction right through from the ensiform cartilage; there was slight opisthotonos, and the pulse was 96, small, but steady. She was ordered to resume tincture of Indian hemp in doses of fifteen drops every fourth hour, to omit the mercury, and to continue the application of the mercurial ointment to the blistered surface.

"The rigidity of the muscles had become more general towards evening, those of the hands and arms being engaged; there was great pain in the region of the diaphragm; the paroxysms were incessant, and there was considerable retraction of the angles of the mouth. She was now ordered six grains of Dover's powder every fourth hour.

"4th. The abdominal muscles had somewhat relaxed, as also had those of the hands and upper extremities. The patient rested at intervals during the night, owing to the decreased severity of the paroxysms, and the increase of the interval between them. She was ordered an enema of beef-tea, and to continue the wine and Dover's-powder. The relaxation of the muscles of the upper extremities continued during the entire day, the paroxysms diminished in intensity and frequency, and at the evening visit the epigastric pain was less annoying; the pulse was 96, but weak; she could open her eyes and mouth better, but the teeth were still close, only admitting the introduc-

tion of the edge of a spoon. She had less pain in swallowing, and the effort was not so frequently followed by a paroxysm; still there was slight opisthotonos, and great rigidity of the abdominal muscles and those of the inferior extremities.

"5th. She had a return of the severe paroxysms; the masseters were much relaxed, and there was considerable opisthotonos; she got some sleep during the night.

"6th. The paroxysms were still severe; but as her husband was unable to procure the nourishment necessary, and wished her removal to hospital, she was accordingly sent.

"8th. I visited her at the hospital, and found the opisthotonos extreme; the trismus almost removed. She was getting wine and nourishment. I heard that she died on the 13th of October."

Dr. Moore thought this case worthy of some comment, not from anything new in the symptoms or treatment (which latter, though exhibited with every care and attention, proved wholly unavailing) but from the comparative rarity of the idiopathic form of tetanus, at least in the north of Ireland, where he had met with the present example. He proceeded as follows:—"I must confess I started on the treatment of this case, full of hope as to the result, having always entertained the idea that idiopathic tetanus was more amenable to treatment than traumatic; every case of the latter form which I have had an opportunity of seeing having terminated fatally, with one exception; however, I recently read a report on cases of tetanus by Dr. Peet, Professor of Surgery in the Grant Medical College, Bombay, who states, that of 75 admissions for idiopathic tetanus, there were 57 deaths, being a per-centage of 76; and, of 120 admissions for traumatic tetanus, there were 87 deaths, being a per-centage of 72·7; so that it appears in the Indian climate, the idiopathic is the more severe and fatal form of the disease. I am aware that chloroform inhalation has been successfully tried in some cases, particularly of traumatic tetanus, and I regret that I did not exhibit it in the one just detailed. The Indian hemp I cannot speak confidently of, never having seen much specific good result from its use; but I remember having read of the successful employment of this drug in these cases by Mr. Wilmot. In short, I think as yet we are in embryo as regards the treatment of tetanus; but, as far as I can judge, it seems that more reliance is to be placed in the opium treatment, combined with wine and nourishment, and occasionally a stimulating enema. And here I may mention that the treatment pursued by Mr. Cæsar Hawkins in his successful cases of tetanus was turpentine enemata daily, or every second day, with calomel and opium to relieve spasm. I feel satisfied that the removal of this poor woman to hospital, a distance of half an English mile, and which I strongly reprobated, had a bad effect, indeed deprived her of any hope of recovery.

"The second case does not deserve the name of trismus, but it goes to prove the powerful influence exercised by the mental over the motor or physical powers.

"October 10th, 1854.—I visited Mary M'Gonigal, aged 25; she was in labour with her first child; it was tedious, but otherwise perfectly natural, and she was safely delivered.

"On the 13th she was suffering from slight constitutional disturbance connected with the secretion of milk, and I found it necessary to order her an oil draught.

"On the 15th the pulse was quick, her face swollen; she complained of pain in her chest and throat, and slight cough, but there was no trace of inflammation present; and I did not consider it necessary to order anything more than the simplest pectoral mixture.

"17th. She had been considerably relieved by the mixture; she still complained of the pain in the chest and sense of constriction, and I casually heard, for the first time, that on the morning of the 15th she had risen in her chemise and indulged in a drink of buttermilk, immediately after which, all the symptoms I have described manifested themselves.

"Thus she continued till the 19th, when at 2 o'clock in the morning I was called up by her husband, who stated that his wife's jaws were so closely shut that it was impossible to introduce anything between her teeth. I found no rigidity of the masseter, or cervical muscles; still the appearance of the patient was very tetanic, her terror extreme, and her jaws closely locked. I gently insinuated the edge of a spoon between her teeth, and finding she had taken hardly any nourishment for some days, I gave her beef-tea and wine. Her pulse was quick and weak. I retained her mouth in an open state by introducing a piece of cork between her teeth, and at the same time assured her that there was nothing alarming in her condition.

"The next day I was again sent for to open her jaws, which, when I did, she was unable to close again. I gave her wine, beef-tea, and a full opiate.

"On the 21st she was much improved, and continued from this to recover gradually.

"This latter case I consider one of hysterical trismus, if I may so term it, and I think that the following history will tend sufficiently to prove the correctness of my surmise. The nursetender in this case had been in attendance on the patient whose history I have previously read, and had, no doubt, been dilating at great length (after the manner of her class) on the nature of that disease, and of its appalling character, which circumstance, of necessity, must have had its effect on the mind of a young primiparous woman, whose nervous system had sustained, and was still labouring under, the shock of a tedious labour; from indiscretion she caught slight cold and sore throat, and was thus as if confirmed in her idea as to the nature of her disease. She fancied herself affected with the same disease as Lawlor; her jaws became involuntarily closed, and she gave herself up as lost. This I found out some time after. The treatment was the confident assurance that she had no real

disease, which, coupled with wine and nourishment, had the desired effect. I do not take any credit for the diagnosis in this case; but really the *primâ facie* view of it was deceptive, more particularly following in the wake of a fatal one of idiopathic tetanus, which naturally had deeply engrossed my attention."

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.

SESSION 1855–56.

October 24th, 1855.

Dr. Harvey, President, in the Chair.

Dr. Finn exhibited two specimens of Cardiac Disease. The first was an example of disease of the mitral valves, complicated with eccentric hypertrophy of the left ventricle, and with dilatation of the aortic opening.

The subject of this case, E. K., a married female, aged 50, was admitted into the North Infirmary on the 6th of April, 1855; her stature was remarkably tall, and the general conformation of her person was more than proportionately stout, her weight amounting to twenty-two stone.

On inquiry, it was ascertained that her habits were intemperate, and that she had suffered for years from deep-seated and spreading ulcers of both legs, which, on the accession of pulmonary symptoms, during the previous autumn and winter, assumed a more than usually angry and irritable character. When first seen, she presented the following symptoms: orthopnœa, lividity of countenance, which latter was much increased by frequently recurring paroxysms of coughing; general anasarca; pulse scarcely perceptible at the wrist; loaded tongue; and urinary secretion scanty, and depositing an abundant lateritious sediment. Auscultation revealed nothing abnormal in the character of the heart's sounds, with the exception of their extreme indistinctness. During the last three or four days of life, she experienced an aggravation of all her symptoms, having expectorated unmixed blood in large quantity; and in the agony, which immediately preceded her death, the face, ears, and neck became quite cyanotic.

Autopsy.—Body of prodigious bulk, measuring 6 feet 1 inch in the vertical direction; lividity of face and neck, and of the upper portion of the trunk; inordinate accumulation of subcutaneous fat, which, in the parietes of the abdomen, measured $3\frac{1}{2}$ inches. *Chest.*—Serous effusion in the cavities of the pleura and pericardium, but

in the latter to a more limited extent; general congestion of the lungs, with several "nodules" of pulmonary apoplexy. *Heart* unusually large; weighed 18½ ounces, and on being removed from the chest it presented a collapsed appearance; cavity of left ventricle enormously dilated, its walls at the same time being hypertrophied to a moderate extent; the mitral valve, its tissues having acquired a consistence approaching to that of bone, presented a circular opening in a permanent state of patescence[a]; the width of the aortic opening was also somewhat greater than that of the pulmonary artery. *Abdomen.*—The liver was much enlarged and altered in structure, offering a good example of the so-called "nutmeg" disease of that organ.

Dr. Finn, in referring to the cardiac phenomena, observed that the "point of departure" from the normal state had, probably, been the change in the structures of the mitral valve, which, as it progressed, involved an increase in the capacity of the left ventricle, and in that of the aortic opening; these two forms of dilatation either co-arising, or observing the relation of cause and consequence in the order in which they are described; which latter explanation is more in accordance with the views of Hasse, who observes that, "preternatural width of the arterial orifices, which is reckoned amongst the causes, is probably only a consequence of partial hypertrophy with dilatation"[b].

The second was a specimen of disease of the aortic valves, occuring in a female aged 55. This case was under observation for a very short period only; and the position which the patient occupied in bed, owing to the extreme exigency of the symptoms (the trunk forming rather an acute angle with the lower extremities) precluded the physical examination of the chest. When received into hospital she was moribund, anasarca and ascites having supervened some weeks previously. On applying the hand to the abdomen, the liver was observed to be much enlarged, more particularly the right lobe, whose free border encroached on the right iliac region. On the occasion of making the autopsy, very considerable serous effusion was found in the cavities of the pleura and peritoneum. The heart was hypertrophied to a moderate extent, weighing 12 ounces and 2 drachms; the aortic valves were generally incrusted with atheromatous deposit, especially at their extremities, whence it projected into the opening in the form of a bony spicula, so sharp as to cause pain on a digital examination of the parts; at the extremities only did the atheromatous deposit touch the free edge of the valves, receding from it as it approached the sesamoid bodies, and presenting a crescentic outline, with the concavity towards the opening, in deference, as it were, to that ana-

[a] Dr. Stokes observes that "the existence of considerable ossific deposits, yet without the production of murmurs, is a fact well known to clinical observers."—*Diseases of the Heart and Aorta*, p. 107.

[b] Hasse's Pathological Anatomy, p. 164.

tomical peculiarity of distribution of the fibrous tissue within the valves, which Dr. Watson has described. Owing to the difficulties interposed by the friends of the deceased, in the way of a post-mortem examination, the abdominal viscera were not examined.

Tuberculous Disease of the Lung; and peculiarity of Decubitus.—Dr. Finn also exhibited a pathological specimen of tuberculous cavity of the left lung, occurring in a young man aged 25, who, within a period of seven years, had been five times an intern patient in the hospital; the primary disease for which he was treated having been effusive pleuritis of the left side, the sequela of the influenza which prevailed epidemically at the period. On the two subsequent occasions of admission he suffered from acute bronchitis, his convalescence on both occasions having been rather protracted. On the penultimate occasion he laboured under low typhoid fever, complicated with bronchitis; and his convalescence on this occasion, though extremely tedious, was satisfactory, as he left the hospital much improved in health. In April, 1855, he was admitted, for the last time, suffering from cough, of about two months' duration; and on examining the chest, the physical signs of tuberculous disease in the upper third of the left lung were found to be unequivocally present, the phenomena of respiration being, at the same time, quite normal at the right side. His sufferings towards the close of life were much augmented by diarrhœa, which was never completely controlled; and by a bedsore, the consequence of continued pressure on the right side, decubitus on the left or affected side producing an immediate aggravation of cough, with difficulty of expectoration. The decubitus in phthisis having formed the subject of a discussion, suggested by the inconvenience resulting from pressure, which the limited range of decumbency had in this instance entailed, Dr. Finn observed that, in his experience, the decubitus was generally on the unaffected side; or, in other words, that decumbency, as a general rule, was inversely as the affected lung. Louis[a] observes, "that in some cases, at a certain period of the affection, the patients were utterly unable to lie on the side of the chief cavity, from the increase of cough such position entailed." This observation would appear to apply to the advanced stage of phthisis only; but the peculiarity of decubitus in question admits of a more extended application; and probably includes, in the majority of cases, the nascent and intermediate stages of this disease.

November 14th, 1855.

Dr. Harvey, President, in the Chair.

Singular Labour Case.—By Dr. W. H. Sandham, M.R.C.S.L., Cork, late Medical Officer, Carrignavar Dispensary and Rathcoony Fever Hospital.

"Mrs. H., aged 32, married, had two children, with each of

[a] Researches on Phthisis, Sydenham Society's Edition, p. 161.

whom she had speedy and good confinements. When I first saw her she was thirty-six hours in painful and harassing labour, her appearance wild, and her manner violent, requiring two women to keep her in bed. The abdominal tumour was very large, and evidently partitioned or furrowed, leading me to suppose she was carrying twins. On inquiry, the nurse told me the waters broke some time before. On examination per vaginam, I found the membranes presenting at the os externum, and so tense that at first I took them to be the fœtal scalp elongated, and conveyed the idea of their being thicker and tougher than is generally the case. As soon as the pain subsided, it was with difficulty I could reach the head, which presented naturally, and rested on the crest of the pubis; the os uteri was perfectly dilated; pulse full and accelerated; face flushed, and the eyes wild and projecting. I introduced the catheter, relieved the bladder of its contents, which were considerable, and ruptured the membranes, concluding it was their tough and unyielding nature protracted the labour. A considerable gush of liquor amnii followed, which, the woman immediately stated, gave her great relief. On again introducing the finger, when the next pain commenced, I was surprised to find a similar presentation, and of similar bulk. At first taking it for the fœtal scalp, I was some time before I satisfied myself that it was another sac. I ruptured this also, which was remarkably thick and unyielding, and contained a considerable quantity of fluid; and the next pain, to my still greater surprise, forced down a *third sac*, similar in every respect, and occupying *exactly* the position and space of the *two* former; so that I could discover no difference between them in either particular. This I also ruptured, and the next examination discovered the bare scalp still quietly resting against the crest of the pubis. This practice gave the woman so much relief that she scarcely complained after.

"I gave her a draught of ergot of rye, to keep up the steady action of the uterus, and with a view to prevent hemorrhage after delivery, and, after a few brisk double pains, I delivered her of a full-sized, healthy child, having passed the cord which was round the neck over the head. The secundines came away early, nothing unnatural or peculiar about them, and no hemorrhage followed. Whether the sacs were independent sacs, lying within the deciduæ, or whether the deciduous coats were sacculated, I could not satisfy myself; but I rather think they were independent sacs adhering to the internal surface of the membranes. The breaking of the waters, described by the midwife, must have been the rupture of the proper deciduous coats. The sacs occupied the posterior part of the uterine cavity, and kept the head so far forward as to rest quietly on the pubis, and they slipped down one after the other in the safest way for mother and child; for had they occupied any other position, they would certainly have interfered more seriously with delivery, and in all probability caused the death of the child by pressure on the cord, or so interfere with the delivery of the placenta as to cause serious or even fatal hemorrhage.

"Most writers on midwifery, ancient and modern, direct that in conducting the first stage of natural labour the action of the uterus alone should be allowed to rupture the membranes; but I will give the words of an author of a century ago, and of one of the present day. In a work on Midwifery, published in Edinburgh in 1705, under the head 'Management of Labour,' it is stated, 'that the inconveniences and even dangers which result from the too early or premature rupture of the membranes are considerable, and should be carefully guarded against, and that whenever the labour is rendered tedious or lingering from this cause, the practitioner should endeavour to diminish, for he can seldom entirely suspend, the premature action of the uterus, that the strength of the patient may not be exhausted by the unavailing throes;' and says, 'this purpose is effected by opiates.' Burns says, page 365:—'The membranes ought generally to be allowed to burst by the efforts of the uterus alone; for this is the regular course of nature, and a premature evacuation of the water either disorders the process and retards the labour, or, if it accelerates the labour, it renders it more painful. I cannot, however,' he says, 'go the length of some who say that the artificial evacuation of the water is always hurtful; for there are circumstances in which it may be allowable, and is beneficial. It is allowable,' he says, 'when the os uteri is fully dilated and the membranes protruded, perhaps even out of the vagina;' and he lays it down as a good rule, 'that the seldomer we interfere in this respect in natural labour the more prudent shall our conduct be.'

"Now, the author of a century ago and Mr. Burns do not differ in the least as to the line of practice to be adopted as the safest—namely, in all natural labours 'the action of the uterus alone should be allowed to rupture the membranes.' I think the present case seems to point to another side of the question, and certainly proves the great benefit that, to my mind, may invariably attend a practice in some respects opposite.

"One of the circumstances which gives rise to tedious labour is said to be 'a tough and unyielding state of the deciduous coats.' Now I do agree with the author of a century ago, as well as with Mr. Burns, that the premature bursting of the membranes, by nature or by art, may be attended with inconvenience; but I do contend that in all cases, that is, in every natural labour, whenever you are satisfied that the membranes are tough and unyielding, no matter how soon after labour is established, *provided the os uteri is fully dilated*, the artificial rupturing of such membranes is invariably attended with the happiest results, and a better means than opiates of getting rid of that state of the uterus, which in the extract from the Edinburgh author is represented as 'exhausting the patient by its unavailing throes,' an expression so descriptive of the state of the patient alluded to in this paper. I am glad to be able to support my opinion, at all events in part, by the words quoted from Burns, who is a good guide in obstetric practice. His words are—'I cannot, however, go the length of some who say that the artificial evacuation of

the water is always hurtful, for there are circumstances in which it may be allowable, and is beneficial.' The same author, page 362, says:—'Labour is more certainly shortened, by promoting relaxation and diminishing resistance, than by means to stimulate to action; at the same time it must not be forgotten, that continued resistance does, at least, rouse up the uterine action, and call forth frequent and powerful efforts, often accompanied with great pain; and that it is, therefore, a fundamental law in midwifery, that relaxation or diminution of resistance is essential to an easy delivery.'

"Now, on this principle of diminishing resistance, in order to effect an easy delivery, I contend that it is perfectly safe, and attended with no inconvenience or danger whatever, to artificially evacuate the water, provided the os uteri is dilated and dilatable, and the presentation natural. I would not here mention the necessity there is for such a proceeding in preternatural labour, and in how few instances does it appear to be followed by either inconvenience or danger, caused by such interference alone. I look upon this practice as equally safe in weakly and delicate patients as in the robust and plethoric: in the former by assisting the womb to effect its object, and thereby save a great deal of pain and consequent exhaustion; and in the plethoric it gets rid of that resistance likely to induce unusual exertion and irregular action, whereby the very uterus itself may be ruptured.

"Frequently have I been called to cases where the unfortunate patients were for many hours suffering from what is usually styled 'powerful labour,' and simply rupturing the membranes rendered the labour easy and speedy. Certainly the young practitioner, led by writers on midwifery, would have to sit (as I often had to do myself) by the bedside of such cases until he was as much to be pitied as his interesting patient. At all events, since I have adopted this view, I am satisfied I have saved many of my patients a great amount of suffering, and certainly gained for myself some hours of repose; so that the subject is really of some consequence both to patient and practitioner."

Dr. Cummins reported the following case of Premature Labour, with putrid twins.

"Feb. 3. On the 5th of May last, in the forenoon, I was summoned on a dispensary note to visit a woman in labour, who had in a previous confinement borne twins. On inquiry I ascertained that labour had commenced in the afternoon of the previous day, and that the liquor amnii had been evacuated about 12 o'clock that night, subsequent to which, the pains continued lively until 3 A. M., when they gradually declined, and in a short time ceased altogether. On examination I found the fœtal head occupying a natural position in the upper part of the pelvic cavity, not impacted; pelvis roomy; vagina dilatable; bladder and rectum empty. The pains had not returned since their cessation at 3 o'clock, and there was not a trace

of uterine action during my visit. I gave her a dose of laudanum, with the view of producing sleep, hoping the pains would come on naturally after a little rest.

"At nine in the evening, I again visited her, and finding that although she had slept a few hours, the pains were still absent, I gave her ergot in scruple doses. Pains commenced four minutes after the first dose, and in half an hour a living child was born.

"During the interval of uterine action that followed, finding that the abdominal tumour had scarcely decreased in size, I made a vaginal examination, and discovered that a second bag of membranes was presenting, but so high up as to be scarcely within reach of my finger. After a short time a violent pain occurred, during which the membranes were ruptured, and a large quantity of liquor amnii evacuated; after which, on making another examination, I felt the side of a second fœtus presenting. The uterine contractions from this time, stimulated by the ergot, continued almost without intermission, and were so fearfully violent, that I expected nothing less than rupture of the organ. On this account I deemed any operative interference should be postponed until they had been somewhat diminished by opium. I consequently sent Mr. Harris, a medical student, who was assisting me, to the dispensary for laudanum; during his absence the patient was suddenly seized with a most severe rigor, became cold and almost pulseless, declared she was dying, and sent for her husband to take leave of him; the pains almost entirely ceased.

"I thought my apprehensions had been realized; and made an examination, fully expecting to find that the presentation had receded, but was gratified to find it in the same position as before. Just then Mr. Harris returned with the laudanum, and I gave her forty drops. The rigor soon ceased, the feet and hands regained their warmth, and the pulse returned. I now proceeded to introduce my hand, and having laid hold of the feet, evolution was easily performed, and a dead child was speedily born. The placenta of the first child almost immediately followed; the second was retained for half an hour, although the uterus was firmly contracted. A sudden gush of hemorrhage made me deem it advisable to introduce my hand for its extraction; I found it closely adherent to the right side of the fundus uteri, and it was not without considerable difficulty that I peeled it off and removed it; after I had done so the flooding ceased. The patient subsequently did well, and was convalescent in a few weeks.

"I should have mentioned that she had suffered from a dull, fixed pain to the left of the umbilicus during the last few weeks of pregnancy.

"My chief object in bringing forward this case is, that it illustrates the necessity of carefully examining for signs of superfœtation, previous to deciding between ergot of rye and the forceps, in cases of tedious labour depending upon the want of uterine contraction. The frequency of malpresentation in twin labours renders it

probable that in any given case, all the uterine contents are not in a position favourable for exit from its cavity, and we are told by the best authors not to administer ergot if any mechanical impediment to the passage of the fœtus exists. Now, if the second child happened to present transversely, as in the case before us, the fact of ergot having been taken, exposes the mother to the danger of rupture of the uterus, the child to almost certain death, and renders both difficult and dangerous the operation of version, which is inevitable for the second fœtus. If, then, the existence of superfœtation has been diagnosed, and that tedious labour, from want of uterine contraction, attends the birth of the first child, I should prefer delivery by the forceps to the administration of ergot.

"If the transverse position of the second fœtus in this case had been diagnosed previous to the rupture of its membranes, the treatment should without doubt have been immediate version, while the ovum was entire, and pains temporarily absent; but, as I said before, the presentation was beyond reach, and even the membranes could be felt with difficulty. I have never met with a case of adherent placenta when on inquiry I did not find that the woman had suffered from pain in its situation several weeks previous to delivery. This case and the following (the latter also presents other interesting matter) are exemplifications of this.

"Mrs. F. had contracted syphilis from her husband three years since, followed by secondaries, for which she took mercury; she has enjoyed good health for the last two years, and during that period gave birth to a putrid fœtus prematurely. She became again pregnant, and until about eighteen days before my first visit to her the fœtal movements were felt; at that time, however, she was much frightened during a thunder-storm, and never felt them after. In a short time, a sense of dead weight over the pubis was experienced, and she lost appetite, &c. She had suffered from a dull pain to the left of the umbilicus previous to her fright, and it continued until labour set in. On the evening of the 5th of June, when, according to her calculation, she was between six and seven months advanced in pregnancy, labour pains commenced, and a partially putrid fœtus was born at four o'clock the next morning; the placenta was retained, and in endeavouring to remove it, the midwife in attendance broke the funis short off. At seven in the morning I was called to see her; there was no flooding.

"On introducing my hand to remove the placenta, I was surprised to find the longitudinal diameter of the uterus much greater than the period of pregnancy warranted me in anticipating; I am sure my hand was above the level of the umbilicus before it reached any portion of the placenta. It was evident, therefore, that the circular fibres of the organ were firmly contracted, without a proportionate contraction of the longitudinal; when I did reach the placenta, I could feel only a small portion of it: the rest, I at first thought, had passed from the uterus through a rupture in its walls; this seemed the more probable as the portion of uterus surrounding the placenta, and

grasping it firmly, was so exquisitely sensitive as not to bear the smallest touch, without the patient shrinking and jumping across the bed away from me; but after a moment's reflecction, I appreciated the improbability of such an accident as rupture having occurred subsequent to the birth of the child, and concluded that the remainder was lodged in the upper compartment of an irregularly contracted uterus. I now withdrew my hand, as it was useless to attempt the operation, so great was the tenderness of the constriction.

"I gave the patient a large dose of laudanum, and in an hour or so introduced my hand; the hyperæsthesia of the constriction still continued unimpaired, and although I made several efforts to perform the operation, I could not touch the affected part without producing such pain that the patient could not be held in position by four strong women. At the same time, as long as I kept my fingers quiescent in the lower cavity of the uterus, they produced no pain.

"Under these circumstances I thought it well to send for chloroform, without withdrawing my hand again from the uterus. The messenger was absent about half an hour, and on her return I made the patient inhale chloroform; she inhaled half an ounce without sleep being induced, and with the effect of only partially removing the morbid sensibility of the uterus; still it was sufficient to enable me to proceed with the operation. I passed my hand without much difficulty through the constriction, found the placenta firmly adherent; peeled it off and allowed it and my hand to be expelled by a regular and powerful uterine action which supervened; no hemorrhage followed, and the woman was convalescent in a short time. The placenta was much hypertrophied, larger even than it should have been at the full time; it appeared diseased, and on the maternal surface presented somewhat the appearance of fatty degeneration. I had not time to examine it closely, and it was unfortunately thrown out before my evening visit.

"This case illustrates two forms of irregular uterine contraction: 1st. That in which the organ is lengthened by general contraction of its circular fibres; and 2ndly. That in which it is contracted with corner. Of the latter kind Dr. Ramsbotham gives a most excellent plate (Plate LXXXII. Fig. 2) which exactly resembles what was met with in my case, except so far as concerns the circular contraction of the lower cavity, which I have described, and which is mentioned by authors. Such extreme tenderness of the constriction in hour-glass contraction as this case presents is, I presume, a very rare occurrence, as I have been unable to find mention of it by any author. Chloroform, I apprehend, is the only proper treatment for it, and I do not think removal of the placenta by manual effort could be accomplished without the aid of this agent; it is one of the many blessings which it has conferred upon the practice of our profession, and we cannot be too grateful to the accomplished obstetrician who first introduced it into practice."

November 28th, 1855.

Dr. Finn, Vice-President, in the Chair.

Hypertrophy of the Heart, with Dilatation of the left Ventricle and adherent Pericardium.—Professor O'Connor having exhibited an enormously hypertrophied heart, with dilatation of the left ventricle and adherent pericardium, proceeded to make the following observations.

He stated that the subject from whom the specimen was obtained was a man about seventy years of age, a sailor, who had been admitted into the hospital of the Workhouse, labouring under apoplexy, of which he died, soon after admission. He was stated by his friends to have been, as far as they knew, a remarkably robust man for several years previous to the attack of illness which terminated his life. Coupling this fact with the extremely close union between both surfaces of the pericardium would lead to the belief that the attack of pericarditis must have occurred at a very remote period. There was no valvular disease, and no disease of the aorta except a slight dilatation at its origin, with a small patch of atheromatous deposit. These, he contended, were not sufficient to account for the enlargement of the heart, which must, for want of any other assignable cause, be attributed to the increased action necessitated by the adherent pericardium. He observed that it was at all times painful to witness a difference of opinion between men of undoubted ability and candour on subjects appertaining to so practical a science as medicine. This, however, is strikingly the case in the opinions put forward by physicians of eminence as to the influence of adherent pericardium on the growth of the heart. On the one side, Drs. Hope, Latham, Rokitanski, and many French physicians, assert that either hypertrophy or dilatation of the heart is the invariable result. On the other, Dr. Stokes, with Drs. Barlow, Chevers, and others, assert that the heart, so far from being hypertrophied in such cases, is frequently found atrophied.

This is essentially a question of fact, and must be determined altogether by pathological observation. Reasoning from analogy in this case is not justifiable, and may lead to erroneous conclusions, there being no other muscle of such great irritability as the heart, and whose continued action is so necessary for the preservation of life. Comparatively good health is consistent with an imperfect action of almost every other muscle in the body, including the diaphragm and intestinal muscles.

After the observations of such eminent authorities, we should admit that both states of the heart are found united with adherent pericardium; but it is to be regretted that as yet sufficient attention has not been paid to observing the duration of the pericardial adhesion prior to death, and the condition of the patient's general health subsequent to the acute attack. If death occurred soon after the impediment to the heart's action, there would not have been suffi-

cient time for hypertrophy to have arisen; and if a state of marasmus existed, the quantity of blood on which the heart would have to act being diminished, there would be less necessity for increased action, and, consequently, less cause for hypertrophy.

As the subject was, as it were, *sub judice*, he thought it not unimportant to bring forward even a single case of which the characters were well marked.

December 12th, 1855.

Dr. Harvey, President, in the Chair.

Case of Hemorrhagic Diathesis. By S. Henry Hobart, A.B., M.B., M.R.C.S.E., Medical Officer to the Cork Dispensary.—"Denis Leary admitted into the North Infirmary, February 26, 1851; had received a wound of a sharp knife about a fortnight before on the anterior part of the leg, about six inches below the knee. The edge of the knife was the part applied, and not the point, so that it could not be so deep as to engage the anterior tibial artery, yet the hemorrhage at the time was profuse, but on tying a handkerchief round the leg it was arrested. Next day, however, it recommenced as briskly as before, and being a good deal alarmed, he came to the North Infirmary, a distance of three miles, which he had to walk, yet on reaching the hospital all bleeding had ceased; but the blood-stained handkerchief and stocking showed that it had existed. On removing these and washing the part, a simple incised wound was seen, but not the slightest hemorrhage now existed, though I handled the part rather roughly, and varied the position, in hopes of finding the orifice of some bleeding vessel; I accordingly applied a compress and bandage, and let him go. Two days afterwards he again presented himself, stating that it had scarcely ceased to bleed since. The bandage was saturated with blood, which evidently had flowed to a considerable amount. On removing these again, no cause for the hemorrhage could be found, it having ceased as completely as before. I again applied the compress and bandage with great care, and sent him away. He, however, returned a third time, after three or four days, there being no abatement of the hemorrhage; he was slightly exsanguinated, and complained of weakness; the bandages were as full of blood as before, which was still moist on some parts of them. Nevertheless, on cleaning the wound, little or no hemorrhage occurred; it appeared quite recent, no sign of granulation or suppuration being established.

"There being no room for him in the house, I was obliged to let him go home again, having first applied some matico leaves to the wound, and placed a compress and bandage over these. At last, having again applied on the 26th, he was admitted, the hemorrhage still going on. He was directed to keep the recumbent position, and cold lotion was applied to the whole limb.

"28th. The hemorrhage has been constant ever since admission,

though the limb has been kept elevated and extremely cold, indeed it appears to be on the increase. My father, Dr. Hobart, now laid the wound freely open and searched for the divided vessels, but to no purpose; the blood appeared to ooze at one time from one point, at another time from another, and sometimes from several points at the same time. The wound was then firmly plugged with lint, and a tight bandage applied; but it appeared perfectly immaterial whether pressure was kept up or the wound left uncovered; the hemorrhage went on just at the same rate.

"March 6th. The bandages were removed, and lint soaked with a saturated solution of alum was applied. At 4 o'clock P.M. hemorrhage became very profuse; patient became much weakened; the actual cautery was freely applied, but even this had scarcely any effect. 7th, 8th, 9th, and 10. Various astringents were applied to the part, but without avail. 11th. Ruspini's styptic was applied, and tincture of matico administered internally. 13th. No hemorrhage since the application of Ruspini's styptic on the 11th. 15th. Still not a trace of hemorrhage. 18th. Patient recovering his strength; wound granulating. 20th. Wound healing. 26th. Discharged.

"Denis Leary again presented himself at the North Infirmary about May, 1852, having received an injury of the finger by which the nail was torn off; a piece of lint was wrapped round the finger and a bandage applied; this dressing was done by the nurse, as the patient presented himself at a late hour. Next day he returned, considerable hemorrhage having taken place. On removing the lint remarkably firm clots were found adherent to the torn surface; in fact there seemed to be a sort of transition from soft clots on the surface to fibrine, and from fibrine to the tissue of the finger; and it was by no means easy to separate those clots completely. After cleaning and drying the part, I applied a quantity of the down of lint, and over this a pad of lint kept in apposition by means of a bandage. Next day, however, blood had oozed out through the bandage, and was dropping down from it when he presented himself at the hospital. On removing the dressings the clots exhibited the same appearance as yesterday, and having removed them I applied dry lint as before. Two days afterwards he returned, having suffered great pain since; and the hemorrhage not having diminished. On this occasion I covered the surface with powdered alum, and applied the compress and bandage as before. Two days after, no bleeding had occurred since, therefore the bandage was not disturbed. Two days afterwards I opened the bandage and found the part suppurating; no disposition to hemorrhage.

"Denis Leary was again admitted into the North Infirmary in January, 1855, on account of a bleeding wound of the leg; various means were tried to check the hemorrhage, among which were a solution of gallic acid in imitation of Ruspini's styptic, powdered alum, &c., but without effect, until the wound was covered over with dry gallic acid; no compress or bandage was applied, but the limb was exposed to the cold air. This had the desired effect; the

checking of the hemorrhage, however, was not instantaneous, but the gallic acid had to be reapplied two or three times, as that first laid on was washed away by the flow of blood. Immediately that suppuration commenced, all disposition to bleed ceased; and the granulations, even when rubbed, scarcely showed the usual tendency to bleed that those of an ordinary sore do."

Improved Mode of Liberating the Screw in "Butcher's Splint for Fractures of the Thigh Bone." By R. G. H. Butcher, Esq., M.R.I.A., F.R.C.S.I., Surgeon to Mercer's Hospital.

Since the period when I wrote my Memoir "On the Treatment of Fractures of the Femur," published in the February Number of this Journal for 1853, I have had frequent opportunities of employing the splint which I then recommended, and testing its efficiency in numerous instances, both in hospital and private practice, additional to the weight of evidence cited in the original paper. Complicated and varied have been the conditions and positions of the fractures in which it has been used, yet efficient has it been found in every requirement and emergency to achieve similar successes. It is absolutely essential to follow the minute directions which I have laid down for its perfect adjustment. Indeed, the splint is so well known now, and its advantages admitted by the profession, that I only advert to it, to make mention of a simple alteration which I have made in the mode of liberating the cylinder at the end of the screw from the transverse piece of wood in which it rests. By the former arrangement a nut and washer steadied it below, and after the splint was applied; and when it was found requisite to change the apparatus, the limb and splint had to be lifted "en masse" from the bed, and that to a considerable height, to allow the application of a turnscrew to the binding nut beneath. Now this entailed much unnecessary disturbance of the limb, and constrained exertion and stooping on the part of the surgeon. To obviate, then, these inconveniences, the arrangement is as follows:—

The cylinder has cut in its circumference, about the centre, a groove, a line and a half in depth, and two in width; through the side of the transverse piece of wood corresponding to this point, a screw is brought to bear, which prevents any upward or downward motion, while it admits freely all circular movement; thus it follows by a few turns the cylinder may be steadied or left at liberty in its socket. Though trifling this new arrangement may appear to some, yet by those practically engaged at their profession—by men, who, from experience, are cognizant of the difficulties encountered in the management of fractures of the thigh bone, any additional improvement in changing the apparatus that shall conduce to the maintenance of a more steady and quiescent position of the limb will, I have no doubt, be duly appreciated, and hailed with satisfaction.

On Poisoning by Corrosive Sublimate injected into the Vagina. By R. G. H. Butcher, Esq., M.R.I.A., Surgeon to Mercer's Hospital.

To the Editor of the Dublin Quarterty Journal.

Sir,—The following interesting particulars, "On Poisoning by Bichloride of Mercury injected into the Vagina," have been communicated to me for insertion in your Journal by an English surgeon of high reputation. The facts are so essentially of a practical nature, that I think they are particularly suited for the pages of the Dublin Quarterly Journal.

Yours truly,

Richard G. H. Butcher.

A young married woman, twenty-five years of age, mother of one child, about sixteen months old, of a relaxed habit and hysterical temperament, left her home to place herself under the treatment of an eminent practitioner, for the relief of a train of symptoms, consisting chiefly of languor, and an endless variety of uneasy sensations, of which the description was not very intelligible. She was informed that she had an ulceration of the os uteri, not previously suspected, and was treated by the local application of caustics, with tonic and nervine medicines inwardly.

At the end of two months she returned home much improved in general health, but with a slight leucorrhœal discharge not previously existent. She brought with her a lotion prescribed for this complaint, and composed of one drachm of bichloride of mercury, and three ounces of lime-water. Circumstances prevented its use until the 9th of June, two days after her return home, when, at noon, more than one-third of the lotion was injected, probably a very short distance within the vagina. The consequences were almost immediate local pain of a most severe kind, with a sense of burning heat; urgent forcing downwards, as in labour; and a profuse discharge of mucus as thin as water. These local sufferings were very quickly followed by a train of general symptoms of a most distressing and dangerous character, which continued with little mitigation for at least twenty-four hours. She had constant vomiting and retching; a feeling of burning heat at the pit of the stomach; a dry, hot tongue, with red edges; a sense of dryness in the fauces; purging of bloody mucus, with constant and distressing tenesmus; coldness of the extremities; spasmodic convulsion of the fingers and toes; faintness, with a quick, small, and very indistinct pulse at the wrist.

On local examination, the entrance and lower part of the vagina were found greatly swollen, red, hot, and discharging profusely. No traces of an ulcerated os uteri could be felt; and though it was not thought justifiable to inflict the pain of using a speculum in such a state of parts, there was no reason to suspect the existence of any breach of surface.

By the evening of the next day, June 10th, the symptoms were much mitigated. The vomiting, pain at the pit of the stomach, and convulsive symptoms, had almost wholly ceased. The tenesmus still continued urgent, with the passage of mucus tinged with blood. The skin had become warm; but the pulse was feeble, and barely 50 in a minute.

On the 11th of June, the principal sources of suffering were much relieved. The cramps, sickness, and tenesmus had ceased. The pulse had risen to 64, but remained small and weak. The vaginal discharge continued, and was tinged with blood. In the morning of this day, the gums began to be red and tender, with some swelling of the glands beneath the jaw. This condition extended during the next forty-eight hours to moderate but well-marked salivation, with mercurial fetor. In about ten days all the symptoms had disappeared, leaving the patient in a fair state of health, and considering herself effectually cured of ulceration of the os uteri.

The treatment consisted in the use of opiates by the mouth and rectum: hydrocyanic acid with alkalies; sinapisms and laudanum applied to the pit of the stomach; iced water, with other cold drinks; and from time to time, moderate quantities of brandy.

On the first occurrence of unpleasant symptoms, it was imagined there might have been some mistake in the figures and quantities marked on the prescription. On inquiry, it was ascertained that the bichloride of mercury had been prescribed by mistake instead of the chloride.

As rather more than a third of the lotion was used, there can be little doubt, considering the very small quantity of bichloride which lime-water will decompose, and allowing also for waste in the act of injection, that the dose of sublimate employed in this case must have been from 15 to 20 grains—a truly fearful quantity to be applied to a highly organized and rapidly absorbing surface.

Death from Hemorrhage consequent on the Bursting of an Aneurism of the Pancreatic Artery into the Duodenum. Reported by Thomas H. Babington, M.B., Surgeon County Londonderry Infirmary.

A. C., aged 25, a prostitute of very drunken habits, was brought to the County Londonderry Infirmary, on the morning of Sunday, 6th January last, on a stretcher, in a state of extreme exhaustion and debility, occasioned by a severe attack of vomiting of blood which had suddenly occurred in the street about an hour previous to her admission; she also passed a very considerable quantity of blood from her bowels. She continued vomiting blood in small quantities, and passing it by stool at intervals during the day. At 11 o'clock P.M. she suddenly fainted and died.

The only uneasiness she complained of was a dull, heavy pain in the epigastric region, which one of her companions (examined at the coroner's inquest) stated she had been suffering under for some

months past, and that latterly the pain had much increased. The patient could give no history of her own case further than that she was seized with the throwing up of blood as she was walking along the street. On examining the body after death, the external surface was peculiarly pale and bloodless. There was a considerable portion of fat under the integuments; all the bloodvessels were empty. The lungs and heart were healthy, the latter pale and firmly contracted; the liver small and pale-coloured. The stomach was largely distended, and contained a quantity of fluid blood; there was also a quantity of blood in the large intestines. The internal coats of the stomach were perfectly healthy. The duodenum was filled with semi-fluid blood, and in the transverse portion of it, where it lies in contact with the pancreas, was found an ulcerated opening about the size of a shilling, communicating with an aneurism of the pancreatic artery situated and embedded in the body of the pancreas.

An Account of the Russian Medical Service at Sebastopol. By a German Physician in that Service.

It was on the morning of the last day of February, 1855, that I arrived with my travelling companions, Drs. Hauff and Pospichill, on the northern heights of Sebastopol. The besieged city, rising in an amphitheatre, with its white houses, which give it so cheerful an aspect, lay spread out before us, encircled, as if to establish the most startling contrast, with gigantic fortifications, and batteries bristling with mouths of fire, washed with the deep azure of the Black Sea. In exchanging our carriage for a boat to cross the roadstead, we were saluted with the thunder of artillery, which, however, did not turn us from our intention.

The following notice is not designed to furnish materials for a military history; its sole object is to enable the reader to appreciate, in a medical point of view, the establishment and the organization destined to receive and to tend the sick or wounded soldier; and to furnish proofs that the Russian Government, also, neglects nothing that solicitude for a brave army can suggest.

The total number of medical men employed at Sebastopol amounts to about one hundred and fifty, to whom must be added a numerous auxiliary staff of Sisters of Charity, dressers, and hospital-sergeants. I think it my duty, in passing, to raise my voice against the prejudice which still exists in many countries, and reproaches Russia with a deficiency of physicians, and especially of good physicians, while the very contrary is the fact[a].

The hospitals of the Crimea may be divided into principal and

[a] Why then do they engage German medical men, youths who have but recently emerged from the lecture-rooms.—*Note of the Editor of the Gazette d'Augsbourg.*

branch hospitals. The former are established in Sebastopol itself, and are situated at three different points; they serve at the same time as *ambulances* to receive new patients and all the wounded during the first period of treatment; they are called, according to their localities, the Northern, Eastern, and Western Hospitals. They all contain, in addition to the apartments of the medical men and of the officials, a consultation-room, a pharmacy, an operation-room, and extensive kitchens. The latter—that is to say, the branch hospitals—receive the wounded who are capable of being removed, and the convalescents from the former, and are found at Bagtchi-Seraï, Simpheropol, Karasbazar, Feodosia, Cherson, &c. I am not acquainted with their organization, but I may add that if it be similar to what I have seen in the military hospitals of Warsaw and Nicolaieff, it will leave nothing to be desired.

To examine, in detail, the military hospitals of Sebastopol, we shall commence with the Northern Hospital, situated at the foot of the fortress of the north side (still in the hands of the Russians). Opposite the town, surrounded by the northern bay, four squares of one-storied huts are found in a sort of semicircle. They were formerly a single enclosure, and served as a barrack for a regiment of infantry; but now they are formed into twelve divisions, each of which conveniently contains one hundred and twenty beds. The first division, which is nearest the bay, serves as an hospital for the navy, and receives patients only from the fleet; the others are appropriated to the land army. The store-houses and kitchens extend behind the huts along the steep bank, while the space between the hospital and the citadel is the rendezvous of those arriving and departing, of the merchants and purchasers of all sorts. The medical staff of this establishment consists, in addition to the physician-in-chief, of two principal physicians, two principal surgeons, and nearly thirty ordinary medical attendants (prescribers) for the different divisions of the hospital, each of whom has under his directions two assistants, one or two Sisters of Charity, and six or eight hospital-sergeants.

To examine the two other hospitals we must cross to the opposite shore of the roadstead, now in the possession of the Allies. A terrace conducts us to the principal street of Sebastopol, and immediately our attention is attracted by the colossal fort, St. Nicholas, constructed in the form of a crescent along the harbour. Beside this fortress we observe a building rising at the foot of a belvidere which commands the environs to a considerable distance, and distinguished from the surrounding structures by its elegant and majestic style. This was the place of meeting of the *haute volée*, like our German *salles de redoute*. It was constructed in 1849, and continued appropriated to its original use until the period when the events of the war gave it another destination. Now the ball-room and adjoining conversation-rooms are occupied by the expert operator, Pirogoff, and a Sister of Charity presides at the *buffet*. It is,

at present, the Western Hospital, and with the three neighbouring buildings appropriated to this purpose in Fort St. Nicholas, is capable of receiving from two to three thousand patients. I saw there, among other curiosities, a boy, scarcely twelve years old, who was of most essential service in assisting at the operations, which are here performed by wholesale. He was occupied, with his slender fingers, in tying arteries.

To arrive at the Eastern Hospital we enter a boat, or we may reach it on foot by the bridge of boats situated at the bottom of the bay. It is located on an eminence which rises fully one hundred feet above the level of the water, and on which is situated the magnificent barracks of Alexander, the front of which, looking to the sea, contains wards for several thousand patients. Its situation and internal arrangements naturally pointed it out as an hospital and ambulance. Unfortunately, it was necessary to establish a battery behind it, which attracted the projectiles of the Allies; and thus it happened that Dr. de Schoenhueb, of Munich, being on duty during the bombardment of the 9th of April, was killed by a shell in the very place where the first dressings were being carried on. This inconvenience caused the evacuation of the hospital, and from this time it was transfered to the spacious magazines of the navy, situated at the foot of the hillock, along the shore. Here, also, there is room for two thousand patients, and the service is intrusted to competent men.

On the approach of the hot season, several hundred tents were erected on the northern shore to receive patients suffering from gangrene and slight wounds; in the ambulance hospitals, too, the wounded are separated from those affected with internal diseases, who are themselves divided into two classes.

The arrangement of the service is as follows:—Those who are wounded in the batteries or in battle are attended on the spot by a dresser, after which they are conveyed, most frequently on stretchers, to the nearest office for admission to hospital. There they are enrolled, and visited by the physician of the day, who, according to the nature of the wounds or of the disease, points out the division which is to receive the patient. When admitted, he is placed under the care of the ordinary medical attendant. The ordinary attendant makes two visits regularly each day, one in the morning, the other in the evening, during which each patient is questioned and examined; the prescriptions and regimen are marked down in the visiting-book by the assistant, and the dressings are applied by the dresser under his superintendence. If the patients are very numerous, the ordinary attendants and the Sisters of Charity assist in the dressings. At the end of the visit the ordinary attendant examines the general state of his division as to order and cleanliness, signs the cheques for the supplies—wood, straw, bread, wine, &c.; and selects the convalescents and those who are fit to be moved, for dismissal. The serious cases are brought forward im-

mediately, and the wounded who require a major operation are conveyed without delay to the operating-room. The latter usually contains four or five tables, with the necessary instruments, conveniently arranged. The operations are performed in rotation, under the superintendence of the surgeon-in-chief, or of the director of the ambulance, by the ordinary surgeons, who mutually assist each other. What surprised me here is the preference given, in amputation of the extremities, to the circular incision *à deux temps;* in some hundreds of amputations I have not seen the flap operation performed ten times. Resections are made as often as possible. Sufficient importance is not attached to a decidedly antiphlogistic treatment after operations, and the care which is taken to apply an abundance of vulnerary and hemostatic waters to the wounded surfaces produced by amputation appears to me to excite much mischief. The use of chloroform is never omitted in painful examinations or great operations, and I had the opportunity of convincing myself of its great utility in the reduction of a dislocated femur, which was accomplished in a surprisingly rapid manner by M. Pirogoff, while the thigh could not be moved before the employment of the anæsthetic.

Since experience has shown that the wounds left after amputation so rarely heal here by the first intention[a], the attempt to effect this is rarely made, and I have scarcely ever, or never, seen a suture applied. It is hard to conceive more dreadful lesions produced in war than those I have had an opportunity of observing; but the patience and stoicism of the Russian soldier surpasses all I have hitherto witnessed. Often have I seen a man with his leg crushed, or a limb torn off, consoling himself with his pipe, and resuming it immediately after having submitted to the knife of the operator. At the same time the Russian soldier is exceedingly grateful to his medical attendant. When a detachment of convalescents leaves the hospital, this gratitude is shown by kissing and shaking hands.

The treatment of the sick or wounded prisoners of war may be characterized as incomparable. I may say that they receive hospitality as it is understood by the true Russian, and all who are acquainted with this Muscovite virtue will know what I mean. These prisoners are almost always French, for at Sebastopol we as rarely hear of an Englishman as of a Turk. They receive every day, in addition to the nourishment suitable to their state, tea, wine, brandy, lemonade (of which they absorb enormous quantities), tobacco, and cigars. Compared to the Russians they manifest a higher degree of sensibility during explorations and amputations, and a greater resistance to chloroform. I except from this statement the cases furnished by the regiments which have come from Algiers and by the Zouaves.

It is natural that, in a siege, wounds produced by artillery

[a] This is not surprising after the treatment described above.—*Editor of the Gazette Médicale de Strasbourg.*

should be very common; this fact does not at Sebastopol, however, exclude those caused by balls and by the bayonet. The numerous sorties which took place furnished a remarkably large number of these latter lesions. The effects of these projectiles on the human body have long been studied, and there would be nothing new in adding the observations made here. But the manuals of military surgery, even the most recent, are entirely silent, so far as I know, as to lesions produced by Congreve rockets. This determined me to devote very particular attention to the subject, but the field of observation was very limited, for I was unable to discover more than three individuals wounded by rockets, notwithstanding the superfluity and fearful profusion with which these means of destruction are scattered here.

In the first case the person struck fell dead as if killed by lightning. His comrade, four paces distant from his side, was struck by the stick of the rocket (of the size of a slender boat's yard), and had his thigh shattered. The second case was that of a servant of General Osten-Sacken, whose leg was carried away; he died two hours after amputation, which was immediately practised. The same thing happened to a clerk who was struck at the hotel of the Government. The symptoms presented by the wounded in these three cases were those of the highest degree of shock, such as no other projectile could produce; and, according to Dr. Pirogoff's opinion, the fatal effect of the rocket ought to be attributed to the violent disturbance communicated to the entire system, commencing at the brain and spinal marrow.

I have not seen any lesion produced by the Lancaster conical shells, although these monster projectiles, weighing several hundred weight, from time to time visited Sebastopol.

The treatment of gun-shot wounds is here as simple as possible. However, the antiphlogistic plan of treatment might be more extensively employed, and if I found myself obliged to substitute, in my division, cupping and saturnine cataplasms for leeches, ice, and cold douches, I constantly obtained more favourable results than I should have had by neglecting these substitutes. Formerly a decided opponent of bleeding, I was cured of my prejudices by Stromeyer's work (*Maximen der Kriegsheilkunst*), and I employed it with great advantage among those who had received gun-shot wounds.

As an endemic disease we have here in reality only the Crimean fever, belonging to the class of typhoid fevers. Asiatic cholera is rarely met with, and the cholerine observed is in a very satisfactorily small proportion to the number of troops stationed here. Itch and syphilis, the ordinary attendants on armies in the field, are extremely rarely seen; while our greatest enemies are purulent resorption and gangrene.—*Gazette Médicale de Strasbourg*, 27th October, 1855, p. 341.

[The foregoing concise account of the manner in which the Russians provided for their sick and wounded during the siege of Sebas-

topol cannot fail to prove interesting to our readers. It would appear to contrast favourably with the want of foresight and neglect which, especially at the commencement of the war, characterized the English authorities in the management of their military medical department; but we must remember that it is from the pen of a partisan, evidently anxious that everything Russian should appear "couleur de rose," nevertheless he makes it manifest that Russian surgery, for example in the management of wounds after operations, is far behind our present improved practice.—*Ed.*]

Three Cases of Adhesion of the Pericardium. By PROFESSOR CEJKA.

AT a time in which volumes can be written on an "*unknown invisible*" atmospheric infusorium; in which, from three symptoms, such as projecting eyes, a thick neck, and palpitation of the heart, a peculiar dyscrasia is built up; or in which the promise is boldly made to unfortunate sufferers from pulmonary affections that simply obstructing the mouth may be adequately substituted for the mild climates of Meran, Montreux, Nice, and Malta;—at such a time the reader turns with preference to the man whose fame in all that concerns delicacy of scientific conscientiousness has for years been so firmly established. Skoda writes but rarely, and writes little. He knows that the prevalent *profluvia calami scriptorii* bring with them the dangers which belong to all redundant growths and hyper-productions, and pities him who has read all that has been written and brought to the cherished daylight, for example, on auscultation. As a contrast, we see that he was able with perfect truth to write in the preface to the *fifth* edition of his work, that it did not essentially differ from its predecessors. The doctrines of the Austrian reformer, as he is called, are not to be circumvented. Every medical man must meet them fairly, and look them in the face.

In the November Number for 1851 of the "Sessional Reports of the Class of Mathematical and Natural Sciences of the Imperial Academy of Sciences," Skoda gave expression to his opinions as to the phenomena which characterize adhesion of the pericardium to the heart in the living subject. He showed, in an historical point of view, that the subject had not been brought by his predecessors to the attainment of certainty, and laid down his simple observations and explanations as nature offered them, and not as theoretically constructed by himself. Since that time three patients were admitted into hospital under my care, in whom phenomena such as are described by Skoda were observed, and made the basis of a definite diagnosis. I shall now take the liberty of communicating these cases, more particularly as they all terminated fatally, and were subjected to post mortem examination.

CASE I.—Soucek Paul, aged 49, a married day-labourer, was admitted, on the 27th December, 1851, into the ward appropriated to

diseases of the chest. He states that many years ago he suffered from acute arthritis of the extremities. For the last eight days he complains of a troublesome stitch in the middle region of the right anterior half of the thorax; of shortness of breath, with dry cough, and the usual febrile symptoms. He is robust, with a short, thick neck and broad chest. The sound on percussion in the region of the second, third, and fourth ribs, beginning on the right from the edge of the sternum and passing outwards for three fingers' breadth, is strikingly less full and clear, with evident resistance. The corresponding costal space of the posterior right half of the back affords a similar sound; the resonance of the lower half of the sternum is somewhat dulled, and the præcordial region, from the fourth to the sixth left rib and externally above the mammillary line, is quite dull. In the part of the right side of the thorax just indicated we hear anteriorly and posteriorly an undefined respiratory murmur, with a distinct rale. In the sixth intercostal space, and farther to the left from the mammillary line, the projection of the impulse of the heart is seen and felt, of moderate size and strength; the sounds are only indistinctly heard. In the region of the aorta, at the first moment, a slight impulse and a long, decided whizzing are perceived, and the latter is observable in the neck along both carotids. The pulse is frequent, and at the same time tolerably full and strong. Throughout the entire cardiac region two murmurs are heard, most strongly in the aortic space (particularly the second), and from thence they extend upwards and downwards along the sternum. The tic-tac is indistinct. In the carotids there is murmur in the first period, but no second sound. The examination had to be very carefully conducted, for the patient complained of the most violent pains to the right of the edge of the sternum, which were increased by pressure. Through impatience he left the institution on the 10th of January, 1852, after the vigorous action of the heart had considerably diminished.

The diagnosis was as follows:—Insufficiency of the semilunar valves of the aorta, with hypertrophy of the heart, with aneurismatic dilatation of the ascending aorta; diminished amount of air in the superior lobe of the right lung, with fluid secretion in the bronchi.

On the 28th January, 1852, the patient was again admitted into hospital. The pains extended over the entire of the left half of the thorax, backwards to the sacrum, sometimes along the left upper extremity. In course of time the dulness in the region of the ascending aorta increased in extent and intensity, and described a curve towards the right; the retarded radial pulses became unequal, the left continuing constantly weaker and smaller; in the pulmonary region the second sound assumed a more precise limitation. Towards the month of March the projection of the left sixth intercostal space during the systole of the heart had entirely disappeared, and in its stead we observed a slight intraction of the corresponding

thoracic region, from which we diagnosed an adhesion of the pericardium to the heart.

On the 19th December, 1852, the patient was admitted for the third time. The examination afforded essentially the same results. On the 8th February, 1853, we observed the veins of the neck to be excessively swollen. With fearful distress the face became more and more congested, until at last it acquired a bluish-black colour. The head and neck swelled up; and the patient died stertorous. It was probable that the changes in the aorta had suddenly obstructed the superior cava, and prevented it discharging its contents.

Autopsy on the 9th February, 1853.—Both lungs were in different places attached by means of firm connective tissue to the thoracic walls. The heart was considerably enlarged in all its dimensions, reaching from the second to below the sixth rib. The two layers of the pericardium were attached to each other throughout their whole extent by means of a fatty and vascular connective tissue. The anterior wall of the aorta immediately above the valves was distended, forming a sac as large as a goose-egg, communicating by an opening of an inch in width with the tube of the aorta. The sac lay upon the anterior wall of the right ventricle and auricle, and, with its own anterior wall, was firmly adherent to the left edge of the sternum, in the region of the cartilage of the fourth and fifth ribs. The walls of this sac became gradually attenuated anteriorly to the point of contact with the costal cartilages; these latter appeared to be very much attenuated and uneven. A second sac, about the size of the first, was situated above the posterior valve of the aorta, and had a somewhat narrower opening, looking backwards and to the right side. On the posterior wall of this sac ran the superior vena cava, which at its point of origin appeared to be about capable of admitting the little finger, but became gradually narrower as it descended, so that at its opening into the right auricle it seemed to be only capable of receiving a goosequill. The walls of this vessel were not visibly altered in their texture. The muscular structure of the heart in the left ventricle measured about three-quarters of an inch at the thickest part, and was at the same time soft, and of a pale brown colour. The valves of the heart were weak; those of the aorta alone were thickened, and, like the coats of that vessel, were studded with layers of calcareous deposit. The inferior cava was very wide, and, in common with its tributaries, was distended with fluid and coagulated blood. In addition to these morbid changes were found, œdema of the upper half of the body, pulmonary blennorrhœa with œdema, chronic enlargement of the spleen, and cicatrices in the liver.

CASE II.—Kolis Anna, a servant girl, aged 30, admitted into the General Hospital on the 6th of March, 1851, and on the 5th of April into the ward for diseases of the chest. She did not remember having had any illness previously to that she now laboured under.

About a year before her admission she had been attacked with pains in her lower extremities, and in the left side of the chest with palpitation of the heart, the intolerable nature of which at last compelled her to seek advice. The case was represented as one of constriction of the left auricular orifice. This opinion was connected with an erroneous view of the impulse of the heart. Thus, during the systolic period the entire cardiac region from the third to the sixth intercostal space was drawn gently inwards, as was rendered particularly evident by the motion of the breast, while during the diastole the rebound of the elastic thoracic wall took place with such violence, that on a superficial investigation it might easily be mistaken for the proper impulse of the heart, which, however, was nowhere perceptible. The sound on percussion was dull on the left side throughout a space which extended vertically from the third to the sixth rib, and horizontally from the middle of the sternum to the mammillary line. The upper boundary of this space was almost as broad as the inferior. Inspiration and expiration made no change in it. Along the left edge of the sternum existed a loud and prolonged thrill, occupying the entire of the systolic period, and terminated by a weak second sound. This thrill extended farther to the left than to the right, and was most intense at the point of insertion into the sternum of the third costal cartilage of the left side. This palpable thrill was on auscultation perceived as a loud murmur during the first period. It was weaker in the region of the aorta and of the apex of the heart than at the left edge of the sternum, in which situation a weak second sound was everywhere audible. If it happened that in consequence of irregular action of the heart minor systoles intervened, the murmur was then as often, though faintly, heard. In the carotids were observed the first murmur and the second sound; their motion was weak and small; the radial pulse was very small and faint. The above-mentioned murmur was also perceptible in the back on the left side, close to the vertebral column, from the spine to the point of the scapula. It sometimes happened that we thought we heard a diastolic murmur also in the middle of the sternum, but this was so slight that we cannot be sure of the observation.

Diagnosis.—According to Skoda's doctrine and my own experience, close adhesion of the pericardium to the heart, and of the lamina bounding the mediastinum on the left side with the costal pleura, was decidedly to be inferred. As to the vessels, we could only reason with probability. The situation of the murmur is often, on account of the nearness of the mouths of the vessels and of the valves, not determinable. I saw two similar cases: in one an aneurism of the aorta, proceeding from the concavity of the arch, lay entirely to the left of the sternum; in another the pulmonary artery was there distended to form a great sac, with narrowing of the right branch. In addition, the extensive dulness in the third intercostal space completely disappeared, while on the left side abscesses oc-

curred in the areolar tissue, which we referred to the resorption of an encysted pleuritic effusion above the base of the heart, in the region of the pulmonary artery. From all these considerations I decided in favour of a constriction of the aorta, although in lecturing on the case I repeatedly referred to the possibility, from the locality of the symptoms, of a similar morbid condition of the pulmonary artery. The valves gave no indication of a diseased state. The patient frequently left the house, but always returned, became dropsical, subsequently exhibited symptoms of apoplexy of the right hemisphere of the brain, as she lost the use of her speech and memory, and became paralyzed on the left side without lesion of sensibility. But all this completely passed off, with the exception of a degree of dulness of the mental faculties, which, however, had never been brilliant. She died on the 16th of July, 1854, exhausted by her sufferings, the dropsical symptoms having to the last continued to increase.

Autopsy on the 16th July, 1854.—Body dropsical. On the posterior wall of the larynx was a funnel-shaped ulcer, of the size of a lentil. Both lungs were universally adherent with dense tissue, infiltrated on the lower lobes with serum; on the posterior circumference were abundant loose coagula of blood. The pulmonary tissue in the upper lobes was slate-gray and indurated; in the lower it was soft, easily torn, everywhere infiltrated with a copious frothy fluid; on the right side in some places it was hardish, fragile, finely granular, of a reddish-brown colour, and but slightly moist. The heart was in its entire periphery firmly attached to the pericardium, as was the costal pleura to the left lamina of the mediastinum—a condition still plainly shown by the external flatness of the preparation. The muscular structure was wrinkled; the endocardium in the neighbourhood of the aortic valves was opaque, and was also rough on the chordæ tendineæ of both sides. The tube of the aorta was much wrinkled in its arch. The conus arteriosus pulmonalis immediately beneath the valve was narrowed in consequence of its corrugated condition, and was only capable of admitting a pea. The posterior mediastinum with the entire vertebral column was filled with callous masses, and was studded with deep abscesses reaching to the bones. The liver, spleen, and kidneys were hardish, tough, dry, and corrugated with superficial cicatrices, and contained but little fluid blood. The genital organs were in the virgin condition. The right wing of the sacrum was somewhat smaller than the left. The pelvis was constricted in its right oblique diameter; over the left synchondrosis and on the corresponding crest of the ilium, standing above it, were abscesses imbedded in dense callus. On the lamina interna was a recent growth of osteophytes.

CASE III.—Trümmel Rosalia, a poor pensioner from Prague, aged 63, was brought into the General Hospital on the 17th December, 1854. She stated that many years before, she had suffered from a

severe thoracic affection of the left side, from which her recovery was slow. Her body was weak and emaciated; on each cheek was a spot of circumscribed bluish redness. The thorax presented a prominent and arched condition. The sound on percussion anteriorly was everywhere very full and clear; in the region of the liver and at the base of the heart it extended somewhat further than it usually does. The dulness of the præcordial region especially was transferred further to the left in the fifth and sixth intercostal spaces. Posteriorly on both sides the sound on percussion was dull inferiorly, with strong and distinct bronchial respiration and consonating rales, particularly under the angle of the left scapula. The left half of the thorax was flattened and drawn in; its intercostal spaces were narrower than usual. In the rest of the lung inspiration was more or less imperfect, with prolonged expiration and undefined rales. The sputa were of a reddish-yellow colour, and were viscid. At every systole the fifth and sixth intercostal spaces were deeply drawn in, and they became rapidly level again at the moment of the diastole. The impulse of the heart was not perceptible. At the first period a distinct murmur was heard in the heart, which became stronger towards the aorta; the second sound in the aorta was loudly clapping. In the pulmonary artery only an indistinct sound was heard in the first period; the second sound was more distinct. The motion of the carotids was considerable and strong; their walls were rigid, as were those of most of the arteries accessible to the touch. The jugulars were distended.

On the 19th the patient became comatose, and on the 20th she died.

Diagnosis.—Chronic catarrh in atrophied lung; old pleuritis on the left side; infiltration in the lower lobes; adhesion of the pericardium to the heart, and of the left lamina of the mediastinum to the costal pleura; power of pulsation of the aorta altered, through complication with hypertrophy of the heart.

Dissection on the 21st December, 1854.—The arteries at the base of the brain incrusted in various places. The air-passages contained a thick, frothy mucus; the mucous membrane was of a dirty red colour. Both lungs were almost everywhere adherent to the costal pleura and the layers of the mediastinum through the medium of dense vascular fibrous tissue. The external surface of the pericardium also was attached by means of newly formed dense connective tissue to the layers of the mediastinum. The parenchyma of both upper and of the right middle lobes was inflated with air; the air-cells, especially along the anterior edges, were strongly dilated. The parenchyma on being cut suddenly collapsed, was easily torn, of a dirty reddish-brown colour, spotted with dark gray, and was in its posterior portions infiltrated with a thick frothy fluid. The lower lobes were condensed, soft, of a dark red colour, here and there traversed by dark gray cicatrices, and very copiously infil-

trated with a thick, turbid, reddish-brown fluid, which in the posterior half of the left lower lobe contained but few bubbles. The two layers of the pericardium were adherent throughout their entire extent, being connected by means of a fibrous tissue, which was vascular, formed of short filaments, and in some parts contained fat. Between the adhesions were numerous small sanguineous extravasations. The left ventricle was moderately dilated; the muscular structure was three-quarters of an inch in thickness, tough, of a pale brown colour; that of the dilated right ventricle was three lines thick in the conus arteriosus, and was stiff and brittle. The papillary muscles were thickened, rigid; the mitral valve at its free edge was slightly knotty. The aorta at its commencement was wide, bowed out towards the right; its walls were thickened, especially at the arch; its inner surface was uneven, covered with cartilaginous and osseous laminæ; the cellular sheath was injected, of a dark red, and was also occupied by numerous ecchymoses. In addition there were found a small cicatrix in the right portion of the spinal marrow, hyperostosis cranii, catarrh of the large intestines, the remains of old peritonitis, serous cysts in the broad ligaments of the uterus and on the mucous membrane of the urethra.

These three were the only cases which presented us with the symptoms from which, according to Skoda's doctrine, adhesion of the pericardium could be diagnosed. In each instance the post-mortem examination demonstrated the correctness of the view of the phenomenon as described by him. A fourth case, which was not accurately noted, but of which I have a clear and distinct recollection, resembled the first. A woman labouring under aneurism of the aorta exhibited an oblique position of the heart; yet, although there was no evident intraction, the motion of its impulse could nowhere be perceived, but it had the feeling as if the movement took place upwards and to the right side. The account of the autopsy made on the 1st of August, 1852, lies before me. The lungs were in numerous situations firmly adherent, and the aneurism of the aorta was as firmly attached to the wall of the thorax. The pericardium was in many places adherent to the heart.

I am not sure whether I understand Skoda's words correctly. He considers an adhesion between the pericardial and costal pleura to be the only case in which systolic depressions occur in the intercostal spaces. In the absence of the latter adhesion and the intraction resulting from it, we must endeavour to recognise the systolic retraction of the apex of the heart by the sense of touch. It would, therefore, appear that Skoda has observed the absence of systolic impulse of the heart without intraction in cases of adhesion of the pericardium, in which the layer of the left mediastinum was in no situation adherent to the wall of the thorax. In his, as in my own observations, a firm attachment to the thoracic wall was invariably present, and I have hitherto considered it to be essential. I have, however, cases before me which will shortly throw ad-

ditional light on the subject, unless a different meaning is to be attached to Skoda's statements. He says, for example, in his fifth edition, page 314:—"Even in mere adhesion of the heart to the pericardium the heart is fixed to the wall of the thorax, and does not change its position during the respiratory movement." And at page 315 it is said:—"In the intercostal space corresponding to the apex of the heart a depression is visible with every systole, when, in addition to the adhesion of the heart to the pericardium, attachment of the pericardial to the costal pleura is present."

[In a note the author states that while his sheets were passing through the press the opportunity actually occurred of demonstrating, by accurate observation and post-mortem examination, that adhesion of the two layers of the pericardium to one another in no way alters the phenomena of the heart's impulse, unless attachment to the costal pleura be also present.]

In conclusion I would refer to Hamernik's Report on this subject in "Canstatt's Jahresbericht" for 1852, page 200, where the reviewer, after introducing various remarks, promises to bring forward his experience of these cases in another place at greater length.—*Vierteljahrschrift für die praktische Heilkunde*, 1855. Band 46, p. 128.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. VII.—*Case in which the whole of one Lower Extremity and the side of the Pelvis were deficient at Birth, owing to Cohesion of the Placenta with the Body of the Child*[a]. By W. F. MONTGOMERY, M. D., Professor of Midwifery, &c., to the King and Queen's College of Physicians in Ireland.

IT is no longer a matter of doubt that the fœtus in utero is liable to a great variety of diseases, pathological affections, and accidental injuries; some of which, however, assume a peculiar interest, from the consideration that they are of such a kind as might readily be mistaken for the result of, at least, bad management in the birth of the child, or of intentional violence offered to it afterwards.

Thus, children are frequently born with bloody tumours on the head, such as, in the adult, are produced by a heavy blow, and occasionally the skull underneath these tumours has been found fractured in more than one place. In another case, a child exhibits at birth a gash or wound extending across the back and down the arm to near the elbow, and this simply the

[a] Read before the Association of the College of Physicians of Ireland, on the 5th March, 1856.

result of an accident occurring to the mother some weeks before, as is proved by the fact that one-third of the wound is already healed when the child is born. In other instances a child is born wanting part of a limb, and the separated portion is found as cleanly amputated as if done by the surgeon's knife, and both the stumps healed, under a process which I have elsewhere fully described. Or again, as in the case of which I now propose to give an account, a child is born deficient of one entire extremity, from the hip downwards, owing to a morbid adhesion between its body and the internal surface of the placenta; an anomaly always productive of various forms of monstrosity, of which numerous examples have been from time to time recorded, especially by Geoffrey St. Hilaire[a], and also by many others.

Having thus incidentally alluded to the spontaneous amputation of the fœtal limbs in utero, I trust I shall be excused if, before entering on the details of the case which more especially forms the subject of this communication, I devote a very few sentences to the relation of an instance of that remarkable pathological lesion, recently made known to me, and possessing some points of unusual interest.

The case alluded to was communicated to me by Dr. Levert of Mobile, U. S., and is of peculiar value and importance, as being not only a well-marked example of the lesion in question, but also of the presence of the ligatures which I described as the agents under whose action the limb is divided; and in this case they were found still adhering *in situ*.

"Mrs. J——l, aged eighteen years, advanced to the eighth month of her first gestation was delivered of a male child, which lived about two hours.

"Great deformity existed: the nose, superior maxillary on the right side, and right orbit, were wanting; the right eye, about one-sixth of its natural size, was placed in the outer angle of what should have been the orbit; there was no optic nerve, nor had it any direct connexion with the brain, being attached merely to the integuments.

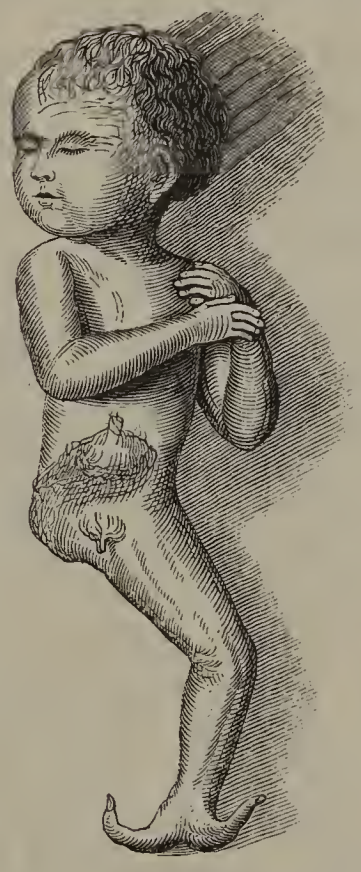
"But that which makes this case particularly interesting was the abnormal condition of the extremities. The right thumb was found to be completely amputated between the first and second joints, and the stump was perfectly healed and rounded; the ring finger of the same hand was also amputated near its metacarpal articulation, but the finger itself was still attached to the stump by a small ligamentous substance, which

[a] Anatomie Philosophique: Monstruosités Humaines.

appeared to be the remains of the bone; the skin here, also, was healed, both on the stump and on the amputated extremity itself; around the ligamentous attachment just alluded to, *a small, thread-like cord was placed, partially filling up the depression;* it seemed to be composed of organized lymph. One end of this ligature extended along the palm to the extremity of the amputated thumb, the other to the little finger, around the second phalanx of which it was cast, producing a deep groove, without, however, causing any breach of the integuments.

"A similar ligature was placed around the left thigh, just above the knee, where, also, the same appearances were observed as those just described. These ligatures I saw in situ, and there can be no doubt that the amputations were caused by them."

On the 1st January, 1856, Dr. Brabazon, of Downpatrick, very kindly placed in my hands the extraordinary child of which there is subjoined an accurate portrait.



Its history and peculiarities will best appear from the account of the birth, &c., given me by Dr. Dickson, of Ballynahinch, who attended the mother; and from the report of the anatomical examination made, at my request, by Dr. John Barton, Demonstrator of Anatomy, Trinity College.

The mother was about twenty-six years of age, and the father some eight or ten years older; both seemed healthy and well formed; it was their first child, and a boy.

Dr. Dickson mentions that *they were cousins, as were also their father and mother;* and he adds, that in the part of the country where they reside such intermarriages are of very frequent occurrence, and that the result is, there are very many mental debilities and bodily deformities there existing.

It was a first labour, in the eighth month, and an arm presentation, and, when seen by Dr. Dickson, circumstances demanded that the child should be turned without further delay. This was easily accomplished by bringing down the left lower extremity; but in doing so, although very little force was required, there was distinctly felt a sensation of rending, or laceration of adherent surfaces.

Afterwards, a good deal of force was necessary to get down the head; and the intestines of the child were found much protruded, but attached, and otherwise normal. The delivery having been completed by manual removal of the placenta, no trace of a cord could be discovered, either on the secundines or attached to the child. The placenta was so much lacerated at the part where it had adhered to the child, that it was found impossible to tell the exact amount or nature of the connexion which had existed: diligent search was made for the absent extremity, even to the introduction of the hand into the uterus, but it could not be found.

Dr. Barton says:—"There was complete absence of the right lower extremity; the abdominal wall and side of the pelvis being also deficient at the same side, the cavities of the abdomen and pelvis were consequently exposed, but the viscera had been removed; a fragment of the liver remained attached to the diaphragm; while the right kidney, the stomach, and all the intestines, with the exception of a part of the rectum, had disappeared; the bladder remained in its natural position.

"The abdominal wall was deficient from the middle line, or linea alba, to the right lumbar region; the edges of this opening were uneven and jagged, as if they had been torn from the structures with which they had been continuous or united; posteriorly, a piece of membrane remained attached to the edge, and *evidently continuous with the skin, and yet presenting, both internally and externally, the smooth, shining appearance of serous membrane.*

"Having ascertained, so far, the state of the parts, I proceeded to examine the bones of the pelvis; and here the most curious feature of the case presented itself: the sacrum was *smoothly rounded off on the right side,* in a line with the bodies of the lumbar vertebræ; at the symphysis pubis there remained attached about a third of the right pubes; just as the bone was

dividing into its two rami it was cut off, *the edges being quite smooth and round, precluding the idea that the bone had been broken off.*

"Thus, the entire of the ilium and ischium, and two-thirds of the pubes of the right side, were wanting; there was, in consequence, no acetabulum for the head of the femur, had that bone existed.

"In connexion with the non-development of the right lower extremity, it is worthy of remark that no trace could be found of the right psoas muscle, while the left was distinct and well developed. The aorta bifurcated naturally, the internal iliac terminating, about half way between the pubes and umbilicus, in an open mouth, where, I suppose, it had entered the placenta; the external iliac could not be traced. There is no appearance whatever of a cord. The head and upper extremities of the child were quite normal, and the thorax nearly so; the left foot presented only two long toes, curiously placed (see figure); but with this exception the left lower extremity appeared natural."

In addition to the internal anatomical peculiarities above described I have to add, that the thorax is a good deal narrower and less developed than it might be expected to be when compared with the length of the child, which was sixteen inches, and the volume of the head, which was between thirteen and fourteen inches in circumference. The genital organs were diminutive; and the viscera of the abdomen being all extruded, that region, instead of being full and prominent, as it usually is in the fœtus at birth, was flat, still narrower than the thorax, and tapered down towards the pelvis, almost like the loins of a greyhound. The nails on the fingers were tolerably perfect; on the toes their form was distinct, but the substance soft.

When this child was brought to me, the intestines had been, I believe accidentally, removed; and at a first view, and without any more particular investigation, the breach in the abdominal parietes and side of the pelvis looked as if the absent lower extremity and portion of the integument had been torn off by force, or roughly cut away with a knife; and, in fact, this opinion as to the cause of the absence of the extremity was expressed by more than one medical man, who, however, had only an external view of the child, without any opportunity of examining its internal condition. The idea of spontaneous amputation, in the sense in which we have been hitherto considering it, was clearly not admissible, while the flap of membrane, smooth on both surfaces and continuous

with the torn integuments, at once suggested the idea of a previous adhesion of the skin to the serous coverings of the placenta; and, on further examination, the fact that the surfaces of the remaining pelvic bones *were rounded off and quite smooth* proved that such condition could only have resulted from the long-continued action of a vital process.

I shall now notice, very briefly, a few other cases of monstrosity produced by adhesion or cohesion of the placenta with the body of the child, for the purpose of additional illustration, and of showing that, although in many respects resembling that which I have described, in none was there observed the total removal, in the same way, of an entire extremity; and so far, I believe, my case is unique.

In 1830 I met with and published[a] a case of this kind, presenting some remarkable features. The child, as happened in most of the cases, was prematurely born, in the seventh month, with adhesion of the placenta, through the medium of a strong membranous band, formed by the amnion, and inserted into the abdomen at the umbilicus.

The head, face, and upper part of the thorax, as well as the arms and hands, were well formed, and the features were expressive and rather handsome, which is a rare circumstance in such cases. The abdomen was closed both above and below the umbilicus, but there the abdominal viscera protruded, and were only covered by an envelope of membrane; the funis was four and a half inches in length, and had its vessels running *parallel* to each other. There were no external genitals or anus in their usual situation; the right leg and thigh were distorted and bent backwards, at such an angle with the body that the foot lay near the right ear. On the back was a large spina bifida tumour containing about six ounces of fluid.

The bones of the pelvis posteriorly were very loosely connected to the sacrum, and anteriorly had no connexion with the symphysis, the bones of the pubis being separated from each other to a distance of nearly three-quarters of an inch, so that in fact there was no pelvic cavity.

In 1839 Dr. Robert Lee published[b] an account of a case in which the placenta was connected with the forehead by an intervening membranous band composed of the amnion and chorion: this band was an inch and a half long, and three-quarters of an inch broad, it passed off from the placenta near

[a] Dublin Medical Transactions, New Series, vol. i. p. 375. See also Geoffrey St. Hilaire's Anatomie Philosophique: Monstruosités Humaines.

[b] Medico-Chirurgical Transactions, 1839, vol. xxii. p. 300.

the entrance or root of the funis, and was firmly inserted into the integuments of the forehead[a]. The scalp and dura mater were pervaded by a great plexus of dilated arteries and veins, so as to resemble a nævus; all the bones of the vault of the head were wanting; the hands were imperfect, but there is no mention made of any extremity being absent; the funis was six inches long. This child also was born in the seventh month.

Professor Vrolik, in his work[b], gives a case in which the placenta formed the anterior wall of both the thorax and abdomen, the proper parietes of which were wanting, and their viscera protruded; the funis was only four and a half inches in length; both sets of limbs were present, but the legs were so arranged that the heels were touching the back of the head. In this case, as in mine, there was a membranous sac derived from the amnion, surrounding the protruded viscera. The child appeared to have been nearly full grown.

It is curious in how many of these cases ectopia of the abdominal viscera has existed, even when the situation of the placental adhesion has been very distant from the abdomen, and apparently in no way interfering with that cavity, as, for instance, at the top or back of the head.

In 1851 Mr. Dickson, of Carnoustie, published in the Edinburgh Monthly Journal[c], a case in which there was adhesion between the placenta, and a tumour of the abdomen, the parietes of which were entirely absent. The genital organs of the child were not visible externally, and internally their identity was rather equivocal; but the head, arms, and inferior extremities were naturally formed, and proportionate to its length. This child also was born in the seventh month, and had a tumour containing serous fluid on the back over the lumbar and lower dorsal region: it lived for a quarter of an hour.

The placenta was of great size, being fully twelve inches in diameter. From the centre of its inner or fœtal surface a large number of vessels issued, and entered a large solid tumour, in appearance and texture resembling the liver, with which it was connected, and occupying the place of the absent abdominal integuments.

There has just appeared in the Monatsschrift für Geburtskunde, &c.[d], a case of placenta previa, with total absence of

[a] See Vrolik's Figures 595 and 596; Todd's Cyclopædia of Anatomy and Physiology, vol. iv. pp. 943–4.

[b] Tabulæ ad Illustrandam Embryogenes in Hominis, &c., Amstelodami, &c., 1849. *Vide* Tab. xxi. xxii. and xxiii.

[c] July 1851, p. 82.

[d] Siebenter Band, Erstes Heft.

the funis, by Dr. Stute, of Boest. The child was at the full term, and very small. To its back was attached a large bag of fluid; and on the abdomen, concentric with the umbilicus, lay the placenta of normal breadth, thickness, and structure; there was no funis, but in the situation of the umbilicus the placenta with its membranes passed directly into the navel.

To return for one moment to the poor child which I have been describing—had he been privileged to repose in a tomb, it might have borne as its inscription the words of our immortal bard, and with an adherence to strict truth, too seldom found in monumental testimony, he might have claimed and justly appropriated a king's description of himself, for assuredly he was—

> "Not made to court an amorous looking-glass,
> But was curtailed of this fair proportion;
> Cheated of feature by dissembling nature,
> Deformed, unfinished, sent before his time
> Into this breathing world, scarce half made up."

Art. VIII.—*On Cleft Palate.* By Maurice H. Collis, M.B., F. R. C. S., Surgeon to the Meath Hospital; Lecturer on Surgery and Operative Surgery, Dublin School of Medicine; Corresponding Member of the Societé Anatomique of Paris, &c.

Surgeons have probably been in the habit of employing means to close fissures of the palate from an early date. Thus we find Scultetus speaking of the use of caustics and the actual cautery, and of the employment of sponges and metallic obturators in venereal cases. The first operation for this purpose of which we have any record does not date further back than 1767, when Lemonnier operated for fissure of the soft palate. What was the nature of his operation I am not aware, or whether it was successful or otherwise. Graefe, of Berlin, revived or re-invented the operation in 1816. He, however, failed of success at that time, although more fortunate at a subsequent period; and it remained for Roux, the Nestor of French surgery, practically to lead the way in this great modern improvement. His description of his first case, in his "Forty Years of Surgery," is most interesting, and will amply repay the trouble of perusal.

It appears that he was ignorant of Graefe's labours, and conceived the design on the moment of seeing the first instance of the deformity. Roux had a constitutional aptitude for such

minute and delicate operations, which he affected, rather than the heroic line of practice which is generally suited to the surgeons of France. The patient in this instance urged him on, and he accordingly operated two days after he first saw the case. The patient was a student named Stephenson, who subsequently filled the Chair of Anatomy at Montreal. This speaks as much for the practical benefit derived from the operation, as the fact that Mr. Stephenson read an account of his case before the Academy of Science, on the eleventh day after the operation, does for its immediate success. This event occurred in 1819.

Roux operated upwards of one hundred and forty times after this, with great but not uniform success. His plan was simple in design, but troublesome in execution. He first inserted his needles from behind forwards; he next pared the edges; and finally he fastened the ligatures. The inverted order of his two first steps has sometimes been found troublesome, inasmuch as the loops hang down in the pharynx and create nausea, and are, moreover, liable to be cut during the operation of paring the edges: the only advantage would be in the case of an irresolute or unruly patient, who should compel us to desist from an operation already commenced. In such a case, the insertion of the threads might be first proceeded with, and if they should require to be withdrawn, no appreciable injury has been done to the soft parts, and at some more favourable opportunity the operation may be again attempted, with the parts in an equally advantageous condition. Care in selecting the proper age will probably suffice to guard against this *contretemps*, which even in Roux's extensive practice only occurred twice. The sutures he used consisted of three or four flaxen threads flattened into a little ribbon, and well waxed. He used three points of suture, tying the inferior first, then the superior, and finally the middle. Whenever the soft parts were so scanty as to prevent the cut edges from lying well together, he severed their attachments to the posterior margin of the palate bones: he thus allowed the flaps to fall down and become less tense, and the aperture he left was either filled by granulations or closed by an obturator.

His operations on the hard palate were limited to four cases, and were of a plastic nature. Flaps were obtained from the soft parts covering the bones and alveoli, and were brought from each side to meet in the centre of the fissure; a pedicle was left to nourish each flap, as in the operation for restoring the nose from the integuments of the forehead. Three of these cases succeeded; in the fourth, the flaps mortified. He con-

ceived it necessary to forbid his patient to swallow even his saliva until the union was perfect; nourishment was given by enemata; but the depressing results of this continued abstinence were often severe and dangerous.

I have been thus full in my description of Roux's plan of procedure, because it was the first in the field, and the foundation of all subsequent improvements. It was introduced into England, in 1821, by Mr. Alcock, but little was done to improve it in any quarter for many years.

Dieffenbach, in the year 1834, proposed to make lateral incisions parallel to the cleft, with a view to relax the tension on the threads and prevent their cutting through. He says:—

"One side of the palate is pierced through with a scalpel, half an inch from the end, and half an inch from the edge of the wound; the velum is then cut through upwards, in a sawing manner, to the bony palate; another incision is made on the opposite side; the blood generally flows copiously, and the mouth must be frequently washed with cold water. The beneficial effect of these incisions shows itself immediately: the still strained palate hangs down lax, like a damp curtain, and the wounds on the sides appear like two oval clefts which would admit two fingers; the painful and straining sensation which penetrates into the ears also ceases immediately, and the air passes freely in and out through them. The side incisions are necessary before the entire closing of the cleft, in the higher and extreme degrees of this defect, and they especially give a possibility of closing after all the wires are put in, a little twisted together, and the original cleft lessened; but if, on a second twisting of the wires, there still remains a cleft of a finger's breadth, one side is to be pierced, and the palate cut through as near the cheek as possible. A similar incision is made on the other side; the twisting of the wires is then to be continued until the cleft is closed, and the ends of the wires are then to be cut off"[a].

It will appear from this extract that Dieffenbach used lead wire for sutures. This, though an alteration, was no improvement, as it was clumsy and difficult to manage in the insertion, as well as liable, during removal, to tear open the new formed adhesions.

Dieffenbach also proposed and practised a rude operation on the hard palate, by inserting lead sutures through the palate bones, and forcibly approximating them; he also divided the attachment of each palate bone to the alveolar processes by

[a] Dublin Medical Journal, First Series, vol. xxviii. p. 234.

chisel and mallet; but from his account of the operation it had little success, and was undertaken rather with a view to lessen the fissure in the soft palate.

The next improvement is due to one of our own countrymen. In the year 1842 Sir Philip Crampton operated in two cases. I quote the following from the account of his cases, given by Mr. John Hamilton, in the January Number of the First Series of the Dublin Medical Journal, in the year 1843:—

"The most important peculiarity in the treatment consisted in allowing the patients an ample supply of soft food during the whole period of the treatment. Boiled bread and milk, custard, soup, and jelly, were given twice or thrice a day, and the patients were not confined to their beds. Sir Philip Crampton conceived that the total privation of all nourishment for five days, so strongly insisted upon by M. Roux, was not only unnecessary, but in the highest degree unfavourable to the successful issue of the operation. Indeed, if such were a necessary condition to its success, the operation must be limited to the few who had sufficient moral courage to endure so protracted and painful a fast, and sufficient strength of constitution to bear it with impunity. It might be concluded, *à priori*, that the absolute privation of all nourishment, solid or fluid, for five days, must cause, even in the strongest persons, a state of constitutional disturbance highly unfavourable to the establishing the healthy process of union by the first intention; and that such, and even more serious consequences, have resulted from the practice is proved by the testimony of MM. Mannoury and Thore, interns of Hotel Dieu when M. Roux's operations were performed. They say:—'We have seen, in two of the patients, delirium and severe nervous derangement ensue. Perhaps it might be well to relax this severity, and to permit the use of some liquid aliments, the swallowing of which would not have such bad effects as is generally thought.'"

This important improvement has been followed by all succeeding operators. Sir Philip Crampton also used a means of closing the sutures devised by Mr. Maclean, which is ingenious, and may be occasionally used with advantage. It consists in passing the ends of the ligature, after it has been placed in situ, through a leaden bead or perforated grain of shot, which is then pushed along the threads to the cleft, and there tightly squeezed with a strong forceps, so as to compress and retain the ligature in its place.

The next step in advance is due to an American, and it is to it more particularly that I wish to direct attention.

Hitherto, with few exceptions, fissures in the hard palate had been covered by plates of metal or studs of India rubber. Mr. J. M. Warren, of Boston, observed that, in most instances, the deficiency in the hard palate is not merely a cleft. The elevation of the arch or vault of the mouth is increased, and the imperfect palate is a segment of a high and pointed arch; an arch of much greater extent, if complete, than any perfect palate ever is. In fact, the bony palate is not so much deficient as misplaced. He at once came to the conclusion that the soft covering of the bones, if detached from the margins of the cleft outwards, would meet at a lower level in the mesial line, and might be brought to unite in that position. He succeeded in the attempt, and published the result in the New England Quarterly Journal of Medical Science, April, 1843. I regret that I have not been able to procure a copy of this interesting paper. The instruments he used for this operation were knives, bent on the flat at a right angle about half an inch from the point[a].

Mr. Fergusson, in the year 1845, brought before the Royal Medico-Chirurgical Society the results of some cases in which he had successfully operated upon the velum palati. The peculiarity of his practice, as is well known, consisted in dividing the levator palati, and any fibres of the tensor palati that are inserted into the velum, by incisions from behind. The instrument which he then used was the rectangular knife of Warren. He subsequently employed one bent on the edge, as effecting in one cut what the other did in several. Mr. Fergusson operated, but without success, upon the hard palate, after the manner of Warren; and it remained for the late Mr. Avery, of Charing-cross Hospital, and for Dr. George Pollock, of St. George's, to bring it into notice in London. By these gentlemen the necessary apparatus was much improved. Mr. Pollock divides the operation between two periods. The attempt to unite the entire of a long fissure at one sitting is both painful and tedious; it is also liable to the risk of mortification attacking the flaps. The vessels which supply the palate anteriorly and posteriorly must also necessarily be cut through, and the thin flaps imperfectly nourished; while there is less

[a] Before Warren had published an account of his operation on the hard palate, Mr. L'Estrange of Dawson-street had proposed a similar one for the cure of stammering, in the case of persons with remarkably high palates. Mr. L'Estrange also had planned with me an operation of exactly the same kind in a case of fissure of the hard palate, before we were aware of Mr. Warren's labours; and I had a knife made for the purpose similar to Mr. Warren's. Circumstances prevented the operation taking place at that time, but the gentleman has been since operated on, with signal success, in the way we had planned.

risk by operating upon one-half at a time, and allowing a few weeks to elapse, to allow of the development of the collateral circulation. Mr. Pollock has also devised a knife by which the muscles of the velum can be divided from the front. This knife is flat and lancet-pointed, less than half an inch wide, three inches long in the blade, and bent slightly on the flat about two inches from the point. It is thrust through the soft palate immediately internal to the annular process, and by describing a curve along the edge of the palate bone cuts off all fibres of the levator and tensor muscles.

In deciding the question of precedence in the two stages of the operation, we are to be guided by the relative extent of the fissure. Thus, where it is almost wholly confined to the soft palate, it will be well to operate on it first; where, however, the bony vault is much divided, it is better to commence with it. This portion of the operation is more painful and tedious, and where the cleft is extensive the soft palate is frequently scanty, and cannot be readily brought to meet at first. The separation of the flaps from the bone not only lowers the arch, but elongates the palate backwards; a larger palate is thus obtained, while it is also more easy to bring and retain the divided uvula in contact. For all these reasons I prefer to operate on the hard palate first, whenever the cleft extends forwards into the superior maxillary bones. Another advantage is, that the immediate improvement in articulation is more marked, and the comfort in swallowing greater, as soon as the cleft in the hard palate is closed, while all improvement after union of the soft palate is slow, and acquired by care and perseverance. These principles guided the course which was adopted in the two following cases:—

Case I. was that of a gentleman aged 22, residing in London, of somewhat nervous temperament, but possessed of great determination. The fissure was congenital; it extended forward through fully two-thirds of the hard palate, and terminated anteriorly in a sharp point; the separation between the bones at their posterior margin was three and a quarter inches; the section of the arch was high; the edges of the bone were almost as sharp as a knife, and barely covered with a fibro-mucous membrane tightly stretched over them; external to this, however, there was a good pad of soft parts just above the prominences of the alveolar ridges; the uvulæ were moderately large, and met fully during the efforts of deglutition; his speech was very indistinct and guttural, and getting worse each year; although in general able to swallow without inconvenience, yet, when troubled with cough, food and drink often passed up

into the nose and gave much annoyance. Some years ago he had worn an obturator for a little while, but was obliged to discard it in consequence of food getting behind it and remaining there. It was determined, in this case, to begin with the cleft in the hard parts: accordingly, on the 7th July last, the operation was commenced at 4 in the evening, after he had dined heartily. The soft parts covering the bones were separated, by suitable knives, to a sufficient extent to allow of their edges slightly overlapping each other in the mesial line; the edges were then pared with a narrow spear-pointed knife, which removed a thin layer, and enabled the edges to lie in perfectly even contact; three points of suture were then inserted and fastened with a running noose, on which a common knot was tied; the sutures were loosely tied, as the object was to prevent the parts being dragged asunder by accidental violence rather than to draw them forcibly together. The operation, at which I was present, was ably performed by Mr. Pollock: it occupied nearly an hour; and the pain, which would otherwise have been considerable, was much diminished by a liberal allowance of wine, and by washing the parts freely with iced water. Union took place rapidly, and through the entire length of the part operated on except the posterior angle, which remained open. The sutures were removed about the fourth, seventh, and tenth days. The patient was allowed an abundance of fluid food for the first thirty-six hours,—beef-tea, wine, eggs beaten up with wine, and tea; after that he was allowed soft food for three days, and on the fifth he ate some meat. He got up after breakfast on the second day; drove out on the third; and was able to travel on the eighth day from London to Paris, without risk or inconvenience.

The second portion of the operation was performed in the latter end of October, also by Mr. Pollock; I was not able to be present on this occasion. It differed from Mr. Fergusson's operation in the following particulars:—First, a strong thread was passed at the commencement through each portion of the uvula. This I had done, by Mr. L'Estrange's advice, in a previous case of my own, with great benefit. It enables the operator to dispense with a forceps, which must more or less bruise the parts; it also gives greater power to draw the points of the flaps in any direction, and assists to make them tense; the cord also acts as a suture when one is required at the close of the operation. The second point of difference was, that the muscles were divided from the front in the manner I have described above. The operation lasted about half an hour, and the treatment was similar to the former occasion.

I have seen this gentleman since; his speech is wonderfully improved. A small opening remains unclosed about midway in the original cleft, which is covered for the present by an obturator, but will be closed in time, either by caustics or by a trivial operation.

Case II.—James Walsh, aged 22, a labourer, was sent to me by my friend, Dr. Shiell, of Malahide, in July last. His palate was congenitally deficient to a considerable extent; the cleft extended anteriorly through half the hard palate; the apex was sharp; the vault of the mouth was high, as in the former case, and the edges of the bones sharp and thinly covered. It resembled the other case in every particular except that the cleft in the hard parts was not so extensive; I therefore preferred to operate on the soft parts first. Accordingly I did so on the 1st of August, with the assistance of Messrs. L'Estrange, Jameson, Quinan, and others. I commenced by putting the guiding threads through the uvulæ; then I divided the levator palati from behind with Warren's knife, first on the right, then on the left. I found the knife very inconvenient, both in the shape of the point and in the shortness of the blade; it required several stabs to completely paralyze the flaps. I then divided the palato-pharyngei with the curved scissors, as I found that they drew the flaps backwards and outwards; the flaps then lay fully in contact; I next pared the edges, and inserted four points of suture. The operation was tedious, owing to the imperfection of the knife which I had for dividing the muscles, and also in consequence of the patient obstinately refusing to take any wine: his exhaustion near the close of it was so great that I had great difficulty in inserting the last two threads. Union took place perfectly through more than three-fourths of the part operated on. The anterior part, just at the junction of the soft palate with the hard, did not unite by the first intention, nor did the extreme tip of the uvula; the sutures were removed at intervals from the fifth to the tenth day. I should have stated, that the two upper sutures were inserted fully four lines from the margins of the flaps; by this means the little circle of inflammation which they set up did not interfere injuriously with the adhesive process going on in the edges, and there was no occasion for disturbing them for several days; the treatment, as regards regimen, was similar to that detailed above, as recommended by Sir Philip Crampton.

Three weeks after the operation, union was quite perfect and the cicatrix firm: an opening now remained of an oval shape, nearly an inch long, and half an inch wide: this might

have been closed by an obturator; the station of the man, however, precluded the probability of his using any mechanical appliance properly; I therefore determined to close it by bringing down the coverings of the bones and uniting them in the mesial line; this I did on the 23rd August. Two points of suture were required, and I left them in for upwards of a fortnight. My object in doing so was to cause the exudation of a large quantity of plastic matter above the flaps, so as to keep the palate permanently at a lower level. This operation succeeded perfectly. A small pin-hole remained for a time unclosed at the point where the two operations met, but was brought to fill up by a few touches of caustic. The immediate improvement in this man's speech was considerable.

This is the first instance, as far as I am aware, of Warren's operation upon the hard palate having been performed in this country. Operations upon the soft palate have been occasionally performed, with various degrees of success, but the number even of these is very small when compared with what Roux and Fergusson have done, not to speak of others in England, America, and the Continent. The affection is by no means uncommon: I have seen eight cases in adults within the last year, besides others that I have been consulted about by letter; nor is the affection confined to any class or position in society; I have met with it in all ranks and from all parts of the country, and I know that persons have gone to London or Paris to be operated upon. There is no question that the operation is trying and difficult, more particularly the portion upon the hard palate; it is also tedious, owing to the necessity for frequent rinsing of the mouth. All these difficulties, however, can be lessened by a careful selection of instruments, and by accurately informing ourselves upon the peculiarities of each case before commencing the operation.

I wish now to draw attention to some points of importance in the various steps of the procedure, with the view of inquiring into the means by which it can best be shortened and simplified. It is to be remembered, that the position of the patient prevents the use of chloroform, from the risk of suffocation by blood trickling into the larynx. As the operation is both painful and tedious, a free supply of wine should be given before and during the operation. In the first case, the gentleman took nearly a bottle of Port wine without its producing the least bad effect upon him: in the second, where the man obstinately refused it, the operation was prolonged considerably by his physical exhaustion.

I have already insisted on the advantage to be derived by passing a thread through each portion of the uvula, as the first step in the operation on the velum.

The mode of dividing the muscles recommended by Fergusson is founded upon accurate anatomical knowledge, and is tolerably easy and certain in the hands of a thorough anatomist. Mr. Pollock's plan of dividing from the front is more easily and rapidly executed. Dieffenbach's incisions were not founded on anatomical data, and were not therefore so generally successful as regarded their object. Roux's incisions were even more at random, and in a worse direction, and must, in many cases, have left an awkward and permanent gap between the soft and hard palates. It has been denied by a distinguished surgeon, that any incisions are required, and a good deal of ridicule has been expended upon Mr. Fergusson's admirable improvement, but, as these statements are unsupported by argument, they are of little value, especially as the writer who makes them is given to find fault with most modern improvements in surgery which do not emanate from himself. According to Mr. Fergusson, the levator palati is the principal muscle which draws the flaps asunder: the palato-pharyngeus also; the tensor palati affords but few disturbing fibres, and the action of the palato-glossus is useful in the early stages of deglutition, and, in the later stages, any evil it could do is counteracted by the superior constrictor. Now, for the purpose of dividing the levator by the smallest possible incision, the point selected by Mr. Ferguson is the best,—the belly of the muscle is divided before it expands upon the velum; it is, however, very difficult to reach the muscle at this point; it is above the palate and to its outer side, and it requires some nerve to use the sharp-pointed knife which he employs with sufficient boldness, for the carotid is at no great distance behind, and a trifling error might do serious mischief; besides, there is a difficulty not noticed anywhere, namely, during the involuntary motions of the pharynx, the point of the knife is liable to catch in the membrane, and so to increase the spasm of the muscles. Having experienced this, I would recommend the knife to be slightly probe-pointed; by this means it will be impossible for it to get outside the pharynx and wound any vessel of importance; with a knife bent on the edge, at a right angle, and probe-pointed, the section is easily and rapidly made. It is introduced with the cutting edge downwards, until the angle is beyond the velum; by a slight rotation of the handle, the point is turned right or left, and made to rest

on the upper surface of the velum, pointing obliquely upwards as well as outwards, then, by drawing it forwards, and slightly outwards, the levator is cut across against the pterygoid plate, and the flap falls paralyzed. The movement is easy of execution with a little practice, and perfectly safe. Comparing it with Mr. Pollock's mode, I should say that his would readily succeed with an expert person who could use both right and left hand equally well. My knife has, however, the advantage that the muscles at both sides can be divided with the right hand, and without removing the knife from the mouth; it also does not interfere with the velum at all; the incision is removed to a greater distance, and is smaller in extent. In cases where the soft parts are very scanty, an incision passing completely through the soft parts will assist in approximating the edges of the fissure. In such cases Mr. Pollock's proceeding possesses a decided advantage.

The selection and the mode of inserting sutures have been always points of difficulty. Roux used threads waxed, and flattened into a kind of ribbon, as less liable to cut out. If the muscles are properly divided, and the suture inserted sufficiently far from the edge, there is no strain upon the sutures, and no fear of their cutting out. The flat suture is, however, useful, especially in the hard palate; it keeps off the accidental injury that food may do to the union while soft, and its presence between the flaps and the bones causes a copious plastic exudation which strengthens and thickens the new palate, and affords a bond of union between it and the bone. I should also be disposed to insert a broad suture at the point where union most frequently fails, namely, just at the junction of the hard and soft palate, where a small oval opening commonly remains; as happened in both the cases I have related. Dieffenbach's lead wire might be useful if an operation were to be attempted upon the bone itself in very early life; in any other case it is a clumsy contrivance. The mode of inserting the sutures may be indifferently from behind or before. Mr. Fergusson's fixed needles are very convenient. I have, however, found that I can place the needles more rapidly by having them very short, mere spear-heads, with an eye close to the point. I have them mounted on a fine steel staff, in such a manner, that, when thrust through the flap, they remain behind when the staff is pulled back; the needle point is now drawn out of the mouth, remounted on a curved staff, and then passed from behind forwards through the opposite flap. The same thread is thus inserted in both sides, and with great rapidity.

By having three or four staves, and by taking the temper out of them, so that they will take any curve, it is easy to place a suture anywhere.

The best mode of fastening the sutures is that described by Mr. Fergusson: one end of the suture is passed through a loop made by the other, and this slip knot is pulled into the mouth until the thread is sufficiently tightened across the palate; it is readily prevented slipping until a common knot is tied over it, but as no suture ought to be tightly drawn, the kind of knot is of less consequence. If the thread be too tight, it will cut out in whole or in part, and union will not take place in the point under it. The sutures should be left in for a good while: they protect the soft cicatrix, and can do no harm. The food should be abundant and nutritious, but soft and semifluid for a few days. In one case I knew that the patient broke up the adhesion several days after union had taken place, by eating a piece of hard potato. Speaking should also be interdicted for four or five days, or even longer, in the case of soft palate.

The subsequent education of the voice is essential to success in speaking; it is astonishing how little apparent improvement is made without it, and how much may be done by it. Reading aloud slowly should be inculcated in all cases.

I shall not here enter upon the question of the varieties of the deformity, nor upon the complications which occur with hare-lip; I may mention, however, that I have at present under my care one very remarkable deformity. There is a cleft which throws the right nostril into communication with the mouth; it extends back through the velum, and forward through the alveolar ridge, external to the incisors. The lip was cleft in this case, but operated on in early life; the vomer is not only adherent to the left superior maxillary, but also backwards to the atlas. The deformity in this case is very great, greater in fact than I have ever before seen; but still I think it not an unfavourable case for operation, as there is abundance of soft covering at the sides, and on the surface of the vomer and septum, available for the formation of a palate.

Art. IX.—*Some Remarks on the Metastasis of Diseased Action to the Brain in Gout and other Diseases.* By Francis James Lynch, M. D., F. R. C. S. I., Medical Officer of the Loughrea Fever Hospital and Workhouse.

When an abrupt and sudden transference of diseased action to the brain and its membranes takes place in the course of gout, rheumatism, mumps, erysipelas, phthisis, pneumonia, or other morbid conditions of the system, the resulting cerebral symptoms vary to a very remarkable extent. Thus, when gout abandons partially or entirely its ordinary seat, and seizes on the brain, we have in one case all the symptoms of an ordinary apoplectic seizure, requiring, or at all events yielding to, active antiphlogistic treatment; in another, the symptoms of cerebral mischief are less urgent, but more protracted in duration, the cerebral congestion in which they originate either gradually disappearing, or ending in ramollissement or various forms of disorganization of the brain or its investing membranes; while in other instances of gouty metastasis, hemiplegia or general convulsions result from the translation of gouty action from the extremities to the brain, the epileptic fits being followed by more or less coma for some hours or days. Lastly, true phrenitis or maniacal excitement, which occasionally lapses into confirmed insanity, or into a condition allied to that which exists in delirium tremens, may be observed.

Case I.—Mr. A., aged 60, of full habit, and subject for years to attacks of acute gout in the extremities, while labouring under a slight attack of the disease in one foot, accidentally slipped into a pool of water in his farm-yard; he returned to his house without delay, changed his wet clothes, and was rather surprised at finding his foot almost free from pain, and that hardly any traces remained of the slight redness, stiffness, and swelling which had for some days previously existed. A few hours afterwards he suddenly dropped from his chair, and exhibited all the symptoms of profound apoplexy, viz., complete unconsciousness, stertorous, oppressed breathing, moaning, face turgid, flushed, and hot, pulse 80, full, pupils sluggish and very much dilated; the surface of the body was warm and moist, and he lay on his back perfectly motionless. He was bled largely from the arm; the head was shaved, and a cold lotion applied to the scalp; a drop of croton oil mixed with some compound powder of jalap was laid on the tongue, as he was unable or too insensible to swallow, and a large purgative enema at once administered. After a few hours, as no change

was observable in the symptoms, the croton oil with the jalap was repeated, and twelve ounces more of blood were abstracted from the arm. Shortly afterwards I saw him for the first time, and found that after the second bleeding his countenance became deadly pale, and its expression altered, owing to paralysis of the left side of the face supervening; the other symptoms remained unaltered, except that the pulse had become soft, very compressible, and intermitting. Mustard poultices were applied to the feet, a blister to the nape of the neck, and after a time the bowels were freely moved, without the patient being sensible of it. Next day he remained in the same state until evening, when some signs of returning consciousness were observed; shortly afterwards he gradually recovered his senses, and the right foot was found to be the seat of intense gouty inflammation. The paralytic affection of the face, with some degree of hemiplegia, continued for some weeks, when Mr. A. gradually recovered.

In those forms of apoplexy which are the result of gouty metastasis to the brain, it is probable that, although extravasation of blood sometimes exists, as the cases published by Parry and others prove, in the great majority of such instances the cerebral symptoms depend on simple congestion of the brain, and every experienced practitioner must have seen numerous examples of apoplexy, or allied conditions of the brain, the result of simple congestion, where an emetic, an active purgative, or the unassisted efforts of nature, have produced complete and rapid recovery. We should recollect that gouty subjects advanced in life bear large bleedings badly; immediate apparent relief may be the result of the depletion, but as Dr. Holland correctly remarks, lasting depression of the nervous system ensues, unfavourably influencing all the functions of the body, and producing for a time a premature approach to old age throughout the whole being. In the case of Mr. A. the obstinate continuance of the apoplectic symptoms, notwithstanding the employment of active depletion, until the reappearance of gouty action in its original seat abruptly dispelled the cerebral symptoms, is worthy of notice, and has been observed in several similar cases, whether of metastatic gout, or of that form of misplaced gout which suddenly attacks the brain in persons affected with the disease in an irregular form.

It is probable that, in the majority of instances of gouty apoplexy from metastasis, local depletion, active purgatives, cold applications to the head, and sinapisms to the extremities, will be more successful in recalling gouty action to its original seat,

and that too with less injury to the constitution than the employment of general depletion. Cases, however, will occasionally occur in which the use of the lancet is indispensable, —where the pulse is full, the action of the heart and carotids strong and regular, the face flushed and hot, the surface warm, and the vessels of the scalp distended—in such cases the pulse will often, during the bleeding, become fuller; here we need not fear a moderate or even copious bleeding; but in other instances, although the indications for active depletion seem equally pressing, after a few ounces of blood are lost, the pulse sinks, the face becomes pallid, and the temperature of the body sinks, clearly showing that we must trust to other measures than blood-letting, for bringing the case to a successful issue. Some interesting cases, bearing on this subject, are related in Mr. Wardrop's work on Blood-letting[a].

It will be observed that, in the case of Mr. A., the repetition of the blood-letting was almost immediately followed by paralysis of one side of the face, and that a certain degree of hemiplegia was subsequently noticed. Whether the paralytic symptoms were the result or not of inordinate depletion, is doubtful in this instance; but I am inclined to think that the mere persistence of the apoplectic symptoms did not render the use of the lancet a second time advisable.

Case II.—Mr. B., aged 45, of gouty habit and family, had been for several years subject to slight attacks of gout in the hands and feet. In November, 1850, after suffering slightly, for a few days, from pain and swelling in one foot, Mr. B. imprudently sat in a damp out-office for several hours transacting business; his feet became, after a little, very cold, the pains and stiffness disappeared, but, owing to a sudden attack of headach, he was obliged to leave the room, and on reaching the open air found that he could walk without pain or limping.

[a] Wardrop's Lectures on Blood-letting, Lancet, vol. i., 1823–4, page 818. An officer, of full habit, and subject to gout, had, in consequence of a slight pain in the great toe, taken a brisk purgative, and whilst walking on the following day, which was very cold, felt chilly, suddenly became giddy, and fell down senseless and motionless. The pulse was strong, and a vein in the arm consequently opened; as the blood flowed the pulse acquired more strength, and increased in frequency, so that forty ounces were abstracted, when he immediately became sensible to things around him, and an impression was made on the pulse; as, in a few hours afterwards, the pulse and pulsations of the heart became vigorous, a second bleeding to the same extent was practised with permanent relief. In this case it would have been desirable if the existing symptoms at the time of the blood-letting had been more accurately described: the fulness of the pulse and the plethoric habit of the patient were the only indications for blood-letting, but the increasing firmness of the pulse under depletion justified its employment

His head soon got better, and he continued in his usual health for several days, when, while dressing in the morning, he felt a sudden sense of numbness and heaviness in his right hand; it felt heavy, seemed to drop, and he could not use it to his satisfaction while continuing his toilette. He walked out a little into the open air, and on returning, in half an hour, his wife observed that he spoke in a confused manner, substituting one word for another. I saw him shortly after, and found that he was stupid-looking, confused in his ideas, yawning a good deal, not inclined to speak, and then expressing himself in broken and rather unintelligible sentences. He said that when the numbness in his hand first seized him, he felt, at the same time, a sense of pain over the left eyebrow, which had soon disappeared. There was some nausea. Pulse 70, of moderate strength; pupils natural; face rather turgid and flushed, but the surface was cool, and he felt chilly. Sinapisms were applied to the feet, a blister to the back of the neck, active aperients given, and mercury administered so as to affect the system. In a week or ten days he felt much better, but often complained of transitory numbness in one hand, the disappearance of which was often immediately followed by pain over the left eyebrow, which in its turn vanished on the return of the numbness. A blister over the eye removed this supra-orbital pain, and although he seemed to improve in his general health, and was quite collected in his mind, it was clear that the brain was still affected; there was an unaccountable vivacity of manner about him,—he spoke a great deal, laughed loudly without adequate cause, was fretful, fidgetty, and nervous; the loss of memory of certain words, or rather the inability to utter them, continued: thus he desired more turf to be put on the candle instead of on the fire, called a friend "jam" instead of "Sam," but was perfectly sensible of his mistake, and endeavoured to avoid pronouncing those particular words. There was, at times, a thickness of utterance very like what is observed in persons on the borders of intoxication; for a year or two he continued to suffer occasionally from pain and confusion in the head, and the misapplication and imperfect pronunciation of certain words were observable, sometimes more, sometimes less. All this time there had been no return of gout in the extremities, but about a year ago, after taking a few doses of colchicum with ammonia and carbonate of potash, a severe fit of gout in the feet came on, with surprising relief to all the cerebral symptoms, and he is now almost perfectly restored to health. In this case, as well as in the following, I had the good fortune of having the assistance of Sir Henry Marsh.

Case III.—Mr. R., aged 60, a martyr to gout, which occurred in a subacute form, attacking and at length permanently crippling many of the articulations of the upper and lower extremities, was seized with one of his usual gouty attacks in May, 1853. He paid but little attention to it, and in getting to the night-chair exposed himself a good deal to cold. After being for about a week ill the gouty symptoms were gradually abating, when he suddenly shrieked aloud, talked incoherently, and seemed to be very slightly, and but momentarily, convulsed on the right side of his face only. On further examination he was found to be quite conscious, but his articulation was imperfect, and he misnamed persons and things. There was no paralytic affection of the limbs; the pupils were natural; the eyes unusually sparkling; the countenance animated, but not flushed; there were restlessness and loquacity; the surface was cold; the pulse 84, soft, very intermitting and irregular; and no gouty swelling or redness could be detected; he complained of slight frontal headach increased by noise or light, and there was some tendency to nausea; the head was shaved, and a cooling lotion applied, as the scalp was hot, its vessels distended and throbbing, but not violently; a large blister was applied to the nape, the feet assiduously stuped with warm water, rendered stimulating by horse-radish and mustard, the bowels freely opened, and light nourishment given. For some days afterwards he continued in a stationary condition; calomel and James' powder were given until the gums became slightly affected. Still he continued in a very unsatisfactory condition; at times very much excited, and anxious to leave his bed, talking wildly occasionally, but generally speaking quite rationally, except that he could not pronounce several words—generally proper names; for instance, he could not pronounce my name, although he knew me perfectly. At this stage a strong sinapism was applied to the left knee, at the suggestion of Sir Henry Marsh, who saw the patient in consultation, and mild aperients were steadily persisted in; the sinapisms were repeated at intervals for a few days, when the knee became the seat of gouty inflammation, with manifest accompanying improvement in the cerebral symptoms; for months, however, the patient found it almost impossible to pronounce certain words, although, in other respects, he regained his usual health.

The remarkable improvement in the cerebral symptoms, which accompanied the reappearance of gout in its original seat in these two cases, shows, that we should, under similar circumstances, be persevering in our exertions to recall the morbid

action to the extremities. In the one case this object was effected in ten or twelve days, in the other not for several months.

In the case of Mr. R. local or general blood-letting was not employed. It was, however, agreed on, that, if in the course of the illness severe headach occurred, some leeches might be applied to the anus, as it was ascertained that he had been subject to bleeding hemorrhoids, and that the discharge had of late stopped altogether. Sir H. Marsh, therefore, thought, and we agreed with him, that the suppressed hemorrhoidal discharge might, as well as the gouty action in the system, have been instrumental in producing the cerebral symptoms. In the case of Mr. B., owing to the frontal headach being one day unusually severe, the face being flushed, the pulse firm, the head hot, and his general aspect such as would warrant a cautious trial of local depletion, I cupped him on the nape of the neck, but he had hardly lost two ounces of blood when his face got deadly pale; he complained of confusion and noises in his head, and his right hand felt very cold and numb.

In both cases the most marked cerebral symptom was the difficulty in recollecting or pronouncing certain words, or parts of words, or in substituting one word for another. It is well known that Andral has long since disproved the opinions of Bouillaud and others, respecting the invariable connexion of the loss of memory of certain words with disease or morbid conditions of the anterior lobes of the brain; I think, however, that, in a very large number of instances, the loss of memory of particular words, or the inability to pronounce certain words or parts of words, is, generally speaking, traceable to some morbid condition of the anterior part of the brain. There is a very large number of instances on record in which such symptoms were the result of injuries inflicted on the forehead or its vicinity, and, also, where organic lesions of the anterior lobes of the brain, occurring without any apparent cause, first announced themselves by this particular defect of memory, or, perhaps, of the power of articulation; for, in many instances, the patient can write the word, although he makes a very lame effort to pronounce it. I have myself met with several such cases. The affection is sometimes the result of temporary congestion or local injury, and may be altogether removed; or it may end in softening or other organic changes in the brain; or, lastly, the patient may so far recover as to enjoy perfect health, but be unable ever after to pronounce correctly certain words or parts of words. In all the cases I have witnessed, as in the two above related, there was more or less frontal head-

ach; Mr. B. frequently put his hand to his forehead, and firmly asserted that the disease was located there. In some instances, by speaking very slowly, the patient avoids making a mistake, and pronounces the word correctly. In a case of injury of the head, the blow being inflicted near the root of the nose, at its junction with the forehead, the patient was sensible, but substituted one word for another for several days, or, if he commenced pronouncing the right word, he failed to finish it. The fatal illness of the late Dr. Griffin, of Limerick, commenced with occasional pain, like tic douloureux, over the left eyebrow, followed, after a considerable time, by difficulty in recollecting particular words, which caused him to commit numerous mistakes in writing or speaking to patients; he substituted one word for another, and could not think of the particular word he wished to write or make use of: paralysis of the right side quickly supervened, with general debility, complete languor, and gradual failure of the mental faculties. Although rather a digression, I may remark that in Dr. Griffin's case, as described in this Journal for November, 1848, it is mentioned, that he suffered, at a remote period from his last illness, from supra-orbital and facial pains, which were considered to be mere tic douloureux, or rheumatic in their nature; the sequel, however, renders it probable that these pains were produced by the incipient stage of the cerebral disease which afterwards proved fatal. The periodicity of supra-orbital neuralgic pain often leads us to mistake organic mischief within the brain for the more ordinary and curable forms of brow-ache.

Case IV.—Mr. D., aged 40, large, muscular, and robust, suffered for several years from gouty seizures of moderate severity in the feet, for which he took colchicum largely, and always with immediate relief. The last attack was in the thumb of his right hand; there was a good deal of swelling and stiffness, but little pain or redness. It was the shooting season, and he was very anxious to regain the use of his hand, for which purpose he poured a quantity of cold water on it out of a kettle; the result was that the swelling and stiffness abruptly disappeared, but, in a few days afterwards, his manner was altered, he became restless, irritable, moody, and desponding, although a man of large fortune, without anything to fret him; in a short time he became decidedly insane, and is still, I believe, in a lunatic asylum, without any prospect of recovery, though several years have elapsed since the aberration of mind was first discovered.

Case V.—Mr. R., the subject of Case III., suffered during the spring of this year from one of his ordinary attacks of gout, but it was unusually mild, and he paid little attention to it; before the subsidence of the gouty inflammation, he was agitated in consequence of the departure of one of his sons for the Crimea; he became low-spirited and desponding, without the slightest reason, about his pecuniary affairs, and after a little betrayed unmistakeable evidences of insanity, the delusions being chiefly relating to religion; it was observed, at the same time, that all traces of gouty inflammation had disappeared, and that, from being a perfect cripple, he suddenly regained, to a considerable extent, the power of moving and using his limbs. There was occasional pain over the left eyebrow, occasionally noises in the head; a constricted feel across the forehead; great thirst, with much flatulency and acidity of stomach; sleeplessness; he occasionally forgot a word in conversation; the eyes were bright, and in constant motion; the bowels regular; the pulse weak, irregular, and intermitting. Some leeches were applied over the left eyebrow, and subsequently to the anus, as bleeding hemorrhoids, to which he had been subject, had not of late appeared. The mental delusions, however, continued, and extended to many matters; and no success attended our efforts to recall by stimulating applications gouty action to the extremities. He was then brought to Dublin for medical advice, and, after continuing pretty much in the same state for some time, gradually sank.

There are many such instances on record of insanity occurring as the result of the repercussion of gouty attacks, and it is worthy of remark, that the gouty seizures, whose abrupt cessation was so rapidly followed by mental derangement, were in this, as in many other instances of gouty metastasis, by no means severe or acute, showing that even trifling attacks of gout may, if injudiciously treated, be followed by very dangerous consequences.

Insanity, the result of gouty metastasis, sometimes alternates in a remarkable manner with bronchitis, the mental aberration disappearing on the supervention of an attack of bronchitis, but returning on the cessation of the latter. A case of this nature is related in the forty-first volume of the Edinburgh Medical and Surgical Journal, at page 385.

Instances of the complete and permanent removal of insanity in gouty persons, by a regular fit of gout in the extremities, are not very uncommon. Bayle, in his work on Anomalous

Gout, mentions some such cases, and one is given at length in the second volume of the London Medico-Chirurgical Review.

Case VI.—Mr. E., aged 60, subject to gout in its regular form, had one of his usual attacks of the disease in the spring of 1845; while recovering from it, but before the local symptoms had completely subsided, he received a letter the contents of which startled him considerably; a few minutes had scarcely elapsed when he fell from his chair, and on seeing him, shortly after, I found that there was hemiplegia of the right side of the body; there was some confusion of mind; nausea; imperfect utterance; the surface was cold; the face pallid; the pulse weak, intermitting, and slow. The paralyzed limbs were numb, cold, and powerless, and all traces of gout had left them. The head was shaved, the nape blistered, sinapisms were applied to the feet and knees where the last attack of gouty inflammation was located, the bowels were freely acted on, and blue pill, with James' powder, administered.

In about a fortnight the gout returned to the right knee in a severe form, and the paralytic symptoms slowly but completely disappeared.

The occurrence of hemiplegia as a consequence of gouty metastasis, except where it follows apoplectic seizures, is not frequently observed.

Dr. Parry, in his Elements of Pathology and Therapeutics[a], mentions two instances in which the immersion of a gouty foot in cold water produced instant relief of the pain, and a proportional abatement of the inflammation; hemiplegia, however, followed in a few hours, but the result is not given.

I have seen two instances of general convulsions occurring after the sudden subsidence of gouty inflammation in the extremities. The patients were advanced in life, and the symptoms and progress of the affection were so much alike in both, that I shall only give the particulars of one of them.

Case VII.—A gentleman, aged 76, had been subject to attacks of acute gout for forty years; latterly the gouty paroxysms had become so mild, and of so atonic a character, that he paid but little attention to them, lived generously, and drove out in all weathers. In the year 1850, when labouring under a slight arthritic attack, which he wholly ne-

[a] Page 396.

glected and disregarded, he suddenly fell from his chair, while at breakfast, in a fit of general epileptic convulsions: there were foaming at the mouth, perfect insensibility, and snoring; the face was pale; the vessels of the scalp and forehead largely distended, and the pulse irregular, intermitting, and slow. Being at a distance from medical advice, but little was done; and after continuing in a comatose state for some hours, he gradually recovered. On examining the foot which had been the seat of gout, the redness and tenderness had disappeared. During the two years which elapsed between this attack and his death, numerous epileptic seizures occurred, but hardly any trace or symptoms of regular gout manifested themselves; and in the intervals between the convulsive seizures he was in tolerable good health, occasionally complaining of headach or uneasy sensations in his head; the pulse continued all along intermittent, and from 36 to 40 in a minute, probably owing to a dilated and softened condition of the heart.

Case VIII.—The second case terminated somewhat differently: the patient, who was of gouty habit, became suddenly affected with a regular epileptic paroxysm while recovering from a slight attack of gout in one of the extremities. The epileptic attacks were similar to what I have before described, and returned very frequently for eighteen months, but she enjoyed pretty good health in the intervals between them; at last, a severe attack of gout suddenly supervened in the right hand, and from that time until her death, which occurred from influenza three years afterwards, there was no return of the convulsive attacks. In both cases there was but little done in the way of medical treatment; occasional blisters to the nape, issues, regulating the bowels, and sinapisms to the extremities, being the chief remedies employed.

Epileptic attacks, when they occur for the first time in advanced life, are seldom much influenced by active medical interference, and blood-letting, either general or local, is seldom required. I have seen more than one case of this sort, where venesection, practised during the comatose condition which followed the epileptic paroxysm, seemed to cause a recurrence of the convulsions to a frightful extent, besides inflicting serious damage on the powers of the constitution. I cannot say that I have ever seen much, if any, advantage from blisters or issues to the nape of the neck in such cases. I may, however, remark, that in a few instances I have known remarkable relief afforded by large caustic issues on the vertex; and, as far as

my experience goes, whether the nape or the vertex be preferred for the issue, it should be on a large scale, and made with the potassa fusa. From the beneficial effects which I have seen to follow the administration of the Cotyledon umbilicus in a few cases of epilepsy, I think that in senile epilepsy, whether associated with gout or not, it would be right to test the powers of that remedy, as, although the epilepsy of advanced life is very often the result of organic cerebral mischief, I have myself in several such instances found nothing on post-mortem examination but a remarkably pale and bloodless appearance of the brain and its meninges.

Case IX.—Mr. D., aged 40, a publican of very intemperate habits, was seized with one of his ordinary fits of gout in October, 1843. He took some active aperient medicine, and remained in bed for a few days, without, however, relinquishing his intemperate habits. Feeling himself much better after a few days, he walked out to superintend some farming business on a very cold day, and on returning found that all uneasiness had left his foot, and that he could walk with ease and freedom from pain. During the night he was restless and fidgetty; fancied that there were spiders creeping over him, that the police were about to arrest him, and he gradually became exceedingly irritable and unmanageable. He could not sleep, and complained of noises in his head and pain in his forehead; his eyes were bright, but not suffused; the pulse 120, small and feeble; the surface of the body warm and perspirable; the slightest noise could not be borne, and he was incoherent, although rational when spoken to. Next morning I saw him, and found that he was pretty much in the condition above described. I remarked, however, that there was no tremor either of the tongue or limbs; he complained of extreme exhaustion and debility; the tongue was free from fur, and there was some diarrhœa; he rambled constantly when left to himself; sobbed occasionally, and at other times spoke just as persons in delirium tremens express themselves. The head was shaved, and an evaporating lotion applied. Six ounces of blood had been abstracted by cupping from the nape before I saw him, without any obvious effect, except that he became extremely faint for a time, and afterwards very loquacious. Sinapisms were applied to the feet; the bowels were freely acted on, the diarrhœa having ceased, and twenty drops of laudanum in a glass of port wine given every second hour. There were great restlessness, loquacity, and wandering during the night. He frequently left his bed, but staggered on attempt-

ing to stand or walk; towards morning he fell into a deep sleep after taking four or five doses of the laudanum and wine, and after a long sleep of several hours' duration he awoke, quite composed in his mind, but still fidgetty, restless, and uneasy. In the course of the day he complained loudly of one of his feet, and it was discovered that one of the sinapisms had been left on unintentionally since the preceding day. The foot was very much inflamed, and soon showed the peculiar appearances which characterize gouty inflammation. He took for some days a combination of acetum colchici, sulphate of magnesia, and carbonate of magnesia, in peppermint water, and was quickly restored to health, the pain in the gouty foot being much allayed by the application of a solution of cyanide of potassium in water, with the addition of tincture of aconite.

In this case the cerebral irritation, whether it was the result of the repercussion of gout or the consequence of intemperance alone, assumed the features of delirium tremens, and yielded to the plan of treatment applicable to that disease. There was, however, a good deal of headach and intolerance of sound, besides a total absence of tremor, which seemed to imply that the condition of the brain, although allied to that which exists in delirium tremens, was in some respects different from what we observe in the latter disease. The laudanum was, therefore, given in smaller doses than are usually prescribed in delirium tremens. The cerebral irritation or congestion in the case was an instance of that peculiar condition of the brain and its membranes described by Andral as the seventh form of cerebral congestion, and by Abercrombie as "a dangerous form of meningitis, which shows on dissection only increased vascularity."

The train of symptoms which this morbid condition of the brain gives rise to springs up in the course of a great many diseases, viz., fever; the puerperal state; jaundice; diseases of the kidney; the sudden retrocession of the menses; hysteria; injuries of the head occurring in nervous or hysterical persons; and, as we shall hereafter see in erysipelas, cynanche parotidæa, and certain pulmonary affections. The great majority of such cases will not bear depletion, but yield to opiates or to stimulants, or a combination of both; or, lastly, to nourishing diet and an expectant plan of treatment. In some such cases opium will prove hurtful, particularly if at once given in the large doses which true delirium tremens requires. Lastly, local depletion will in some similar cases be of service;

but such are exceptional, and the symptoms which indicate its use are by no means clear or well defined.

When metastasis to the brain occurs in the course of *acute rheumatism*, the sudden disappearance of the disease in the articulations is followed by symptoms of cerebral engagement, which vary much in different cases. Metastasis to the brain in acute rheumatism runs a rapid course, and proves speedily fatal, unless the constitutional strength of the patient, and the early detection of the cerebral complication, permit of prompt and decided antiphlogistic treatment. In almost all the recorded instances[a] of rheumatic metastasis to the brain which I have met with[b], death resulted in from a few hours to four or five days, when general and local depletion, mercurialization of the system, and the other details of the antiphlogistic treatment, could not, owing to the patient's weakness or prostration, be employed; nothing but decided measures will save life; mere local depletion will generally fail in a disease which destroys life in a few hours or days. Severe headach, intolerance of light and sound, pyrexia, flushed face and suffused eyes, followed by rambling and delirium, suddenly supervening on the abrupt disappearance or subsidence of the local rheumatic affection, is the rarest form of rheumatic metastasis to the brain, and, if associated with a full and bounding pulse, is by far the most amenable to treatment. When such symptoms, however, arise, we should not forget that one of the most insidious and fatal forms of rheumatic pericarditis is ushered in by a similar group of cerebral symptoms, and an entire absence of the ordinary signs, at least the rational ones, of pericarditis.

In some instances of rheumatic metastasis to the brain, the cerebral attack is announced by headach, more or less severe, intermittent, or constant, and lasting for some hours or days, followed by hemiplegia, coma, and death in a few hours or days. In other instances there is an entire absence of headach; there is merely a sense of weight or tightness in the head; the countenance is wild and anxious; there is intolerance of

[a] Exceptional cases will, however, occur: thus Dr. Graves has published in the twentieth volume of the first series of this Journal an instance of rheumatic metastasis to the brain, in which the symptoms assumed the aspect of, and yielded to the usual treatment of, delirium tremens, viz.: wine and opium. In Hull's work, too, on Blood to the Head, p. 53, a case is given in which counter-irritation and internal stimulants saved the patient; the pulse was intermittent and the patient comatose.

[b] In the London Medico-Chirurgical Review, vol. ii. p. 431, a case was given by Dr. Cox, which was successfully treated by bloodletting. See also same work, vol. vii. p. 351; and No. 89, p. 47.

light and of sound; rambling, followed by more decided delirium, ensues; then strabismus, coma, and sinking. Lastly, rheumatic metastasis to the brain occasionally assumes an aspect not unlike one of the forms of gouty cerebral metastasis, viz., the disappearance of the local affection of the joints being followed by loss of memory, particularly of proper names[a], ending in more or less complete loss of speech or memory of words, strabismus, sighing, yawning, moaning, preceded or accompanied by fits of screaming, and finally ending in more or less stupor, interrupted by gleams of returning consciousness, until death closes the scene, without any headach or giddiness being complained of from first to last.

In some of the forms of rheumatic metastasis above described, the pulse will be found to be full and bounding: here active measures have a fair chance of saving life, if early and perseveringly employed. In other cases the pulse is weak, irregular, and intermitting; the face is pallid; the surface inclined to be cold, and the patient worn out by the previous rheumatic attack, or the active measures used for its relief. Under such circumstances the chance of recovery is but small. On examination after death, in such cases, we find, sometimes, more or less serous effusion into the ventricles and upon the surface of the brain; the arachnoid membrane appears to be thickened, and often there is subarachnoid effusion of a greenish gelatinous fluid, and increased muscularity of the substance of the brain. In a case recorded in the London Medico-Chirurgical Review, the cerebral seizure seemed to be in some measure traceable to the too active treatment of the preceding rheumatic affection of the joints by leeches, &c. In all diseases where a tendency to metastasis to vital organs is known to exist, we should be slow to use active measures for relieving the parts in which the disease originally locates itself.

In concluding this subject I may mention, that in the course of acute rheumatism the brain may be attacked in the various ways I have described, without any accompanying subsidence of the affection of the joints, just as pericarditis may spring up and follow its usual course without any change in the state of the articulations.

It is well known that, during the course of an attack of *cynanche parotidæa*, metastasis occasionally takes place to the testes, mamma, or brain; and this tendency to metastasis appears to be greater in some epidemics than in others. During

[a] For a case of this description see Macleod on Rheumatism, p. 117.

the year 1850, mumps were very prevalent in this neighbourhood, and numerous instances of metastasis to the testicles, in the course of the disease, fell under my notice. In one remarkable instance, in which the disease affected the entire family, several of whom were adults, the disease in one case first appeared in the testis, the salivary glands having become subsequently engaged. And in Underwood's work on the Diseases of Children, an epidemic is described in which it frequently happened that the testicles alone were affected. In the fourth volume of the Edinburgh Medical and Surgical Journal, page 104, an account is given of some cases of mumps occurring on board ship, in which twelve persons were affected with the disease: all were adults, and in all there was metastasis to the testicles, and in two out of the twelve to the brain.

Metastasis to the testicle is seldom observed except in adults; but both in children and in adults improper treatment will cause a translation of the disease from the salivary glands to the brain: thus, Sir Astley Cooper has seen an instance of fatal pressure on the brain resulting, in a boy eleven years of age, from the application of a cold evaporating lotion over the inflamed parotids.

The head is liable to be affected in many ways in the course of mumps: high fever and delirium may accompany the disease when confined to the salivary glands, or the same symptoms may attend on the testitis when the latter is severe; the head affection, in both cases, being the result of excessive local inflammation, either in the original seat of the disease or in the testicle. Lastly, the head may become engaged upon the subsidence, either of the inflammation of the salivary glands or of the testicle, giving rise to metastatic phrenitis or cerebral irritation in some cases—as occurred in the epidemic referred to,—announced by severe headach; a feeling of tightness, as if the head was bound round by a tight cord; suffused eyes; a wild expression of countenance, and intense pyrexia; requiring general or local depletion, blisters to the shaved scalp or to the nape, cold applications to the head, drastic purgatives, the administration of mercury, and warm fomentations to the scrotum. In other cases, of which I shall relate an example, a different class of symptoms accompanies the cerebral complication, and requires a very opposite mode of treatment.

Case X.—Mr. S., aged 35, of temperate habits and of nervous temperament, became afflicted with cynanche parotidæa, and, not being aware of the nature of his illness, went out into the open air on a cold day. There was hardly any febrile ex-

citement, and the swelling of the glands was but trifling, and quickly subsided. On the fourth day after first complaining the right testis became enlarged, tender, painful, and weighty: stupes and poultices were used, and the recumbent posture observed: the inflammatory symptoms increased so much, however, that twelve leeches were applied to the scrotum, and an aperient, which acted violently, was administered, with manifest relief to the local symptoms. The pain and swelling of the testis rapidly declined during the few succeeding days, so that on the tenth day of his illness but little traces of it remained; but he remarked to me that he passed a restless, sleepless night; whenever he endeavoured to sleep spectral illusions haunted his mind; he seemed low-spirited, nervous, fretful, and fidgetty; he spoke a good deal, and with unwonted rapidity; now and then he laughed and smiled without adequate cause; there was no headach, but a good deal of tinnitus; the face was pale; the eyes bright, prominent, sparkling, staring, and in constant motion, but not in the least suffused; there was no febrile excitement, and the pulse was 72, soft and compressible. He was ordered five grains of extract of henbane every three hours, and to have strong chicken broth occasionally, also some arrow-root, with a small quantity of port wine, two or three times during the day. In the evening I found him in a very excited condition; he spoke incoherently and with great volubility, and in the course of the night became very delirious and unmanageable. He screamed and talked in the most excited manner, pointed to and addressed imaginary objects, made several attempts to leave his bed and room, and passed the night in a state of the utmost excitement; still he knew those around him, answered questions correctly, but his manner was constrained, and his articulation rather indistinct.

Towards morning he fell into a drowsy condition, snored loudly, sighed, yawned, and muttered a good deal. His face all along was deadly pale, and the eyes wild and staring, without being suffused; he could easily be roused, and then described the hallucinations which disturbed him during the night: he complained of flashes of fire before his eyes, like stars or flashes of lightning, and seemed to be in a half comatose condition. There was no dilatation of the pupils or strabismus, but he could not see well; and, what alarmed me most, the pulse fell to 40, and was soft and labouring. I ordered him a glass of port wine every two hours, a blister to the nape, an astringent mixture, to check some diarrhœa which existed, and mercurial frictions, also fomentations to the scrotum; the henbane pills were discontinued, and broth given frequently. To-

wards evening he appeared more rational, and fell into a deep slumber, from which he awoke composed and sensible; the pulse rose from 40 to 72 in a minute, and he quickly recovered. The gums were very sore for some days, and there was no return of the disease to the testicle or parotids.

In the epidemic described by Dr. Noble it is a remarkable fact, that active antiphlogistic measures, such as venesection and strong aperients, were employed in most of the cases to relieve the original inflammatory condition of the parotids; yet, in all the twelve cases, there was metastasis to the testicles, and in two instances to the brain. Is it not probable that the tendency to metastasis was increased, if not produced, by the inordinate depletion and activity which characterized the treatment?

Without altogether subscribing to the opinions of Velpeau and Abernethy, the former of whom considers local depletion hurtful, and the latter useless, in ordinary hernia humoralis, the propriety of applying leeches in orchitis occurring in the course of cynanche parotidæa, is, I think, doubtful; poulticing, stuping, and the recumbent posture, with aperients, will, with low diet, reduce the inflammatory symptoms, perhaps not so rapidly as if local depletion were employed, but in the end quite as well for all practical purposes, and the danger of metastasis to the brain will be diminished. We know that in enlargements of the testicle, unconnected with mumps, the sudden reduction of the swelling, by revulsive treatment, has been followed by fatal cerebral seizures; as occurred in a case mentioned by Travers, in his work on Constitutional Irritation[a].

"A gentleman, of dissipated habits, had a great enlargement of both testicles, for which he applied a strong solution of acetate of lead; the volume of the testicles was suddenly reduced, and he was as suddenly attacked 'with a fit resembling apoplexy.' He never perfectly recovered, and died some years afterwards of a second apoplectic seizure."

When *erysipelas*, particularly of the head, is on the wane, and the patient is progressing favourably, just when the swelling has almost disappeared, and the cuticle is scaling off, delirium of an active character not unfrequently sets in; the patient talks and acts like a person in delirium tremens; there are the same restlessness, loquacity, anxiety to leave the bed, and total want of sleep, which are observed in delirium tremens; in addi-

[a] Page 22.

tion, the pulse becomes very rapid, the face flushed, the head hot, and the patient very often cannot, as is the case in delirium tremens, be got to answer questions unconnected with his delusions rationally. A case of this description is related in Andral's Clinique Médicale[a]; it was cured by opium, after the previous ineffectual use of general and topical bleeding.

I have seen several such cases; in some the symptoms spontaneously disappeared; in the more protracted forms, opium and a sustaining regimen were, as in Andral's case, successfully employed; in a few instances in which the symptoms of cerebral engagement presented at first on the subsidence of erysipelas were identical with the above, the severe headach, delirium, and restlessness were after a day or two followed by coma, convulsions, and death. Two such cases are given in Parent Duchatelet's work, "Sur L'Arachnite"[b], and the chief morbid appearances were gelatinous effusion under the arachnoid, and thickening of the latter membrane.

In the course of *phthisis pulmonalis*, the pulmonary symptoms sometimes disappear, or become remarkably mitigated on the sudden supervention of alarming indications of cerebral mischief, the head affection running a rapid course, very similar to what is observed in the severer and more dangerous forms of erysipelatous metastasis to the brain. The violence of the headach, its sudden approach, and the patient being, perhaps, subject to rheumatism, sometimes causes the complaint to be mistaken for neuralgia or rheumatism, until the appearance of delirium, convulsions, and coma discloses the real nature of the attack; in the few cases I have observed of this description, the headach in the commencement of the attack was uncommonly acute, the patients cried out, were unable to sleep, and paced the room in agony. In one of these instances the administration of a very small dose of the muriate of morphia was almost immediately followed by insensibility and death. In two such cases, which I had an opportunity of inspecting after death, there were several small miliary tubercles embedded in the pia mater at the base of the brain, which by their irritation had evidently induced a fatal amount of arachnitis in their vicinity. The disease runs a very rapid course, and ends fatally in a few days, being in general wholly uncontrolled by medical treatment.

The sudden and more or less complete cessation of all the rational symptoms of phthisis, which many physicians have

[a] Vol. v. p. 304. [b] Page 185.

observed to take place on the supervention of insanity, is a very remarkable instance of the metastasis of morbid action to the brain; in the majority of such cases the course of the pulmonary disease is only suspended for a time, but in some rare instance the disease in the lungs remains dormant or latent during life. I know of one instance, which I myself witnessed, in which the insanity has continued for fifteen years without any return of the symptoms indicative of phthisis.

In the course of certain forms of *bronchitis*, and more especially of *pneumonia*, a transference of diseased action from the lungs to the brain is occasionally, but rarely, observed; the morbid affections of the two organs seem to alternate with each other[a]; the pulmonary symptoms disappearing on the accession of the cerebral, and the latter, in their turn, ceasing on the return of the pectoral affection, which in such cases is usually of a very formidable character, and not so speedily amenable to the usual remedies as ordinary pneumonia of a more sthenic character.

Art. X.—*On Paraplegia from Arteritis; illustrated by a Case in which this was the suspected cause of the Paralysis*[b]. By Wm. J. Cummins, M.D., Physician to the Cork Dispensary; Lecturer on Midwifery at the Cork School of Medicine; &c. &c.

On the 17th of February, 1855, I first visited Anne Mahony, a dispensary patient, aged 17, of sanguine temperament, and without any appearance of the scrofulous diathesis. Her mother states that the catamenia were first observed about two years ago, and have since appeared scantily at irregular intervals.

About eleven days ago she was attacked with general malaise, and pains in the chest, sides, and back; no headach. These symptoms were accompanied, from the first, by a sensation of formication in the left leg and thigh; and during the last four or five days both lower extremities have been partially paralyzed. The bowels have not been opened for a week, and since the day before yesterday, the urine has dribbled away

[a] In the Edinburgh Medical and Surgical Journal, vol. xli. p. 385, a singular instance is given of a person in a lunatic asylum being subject to fits of bronchitis, which was checked on several occasions by a paroxysm of mania coming on, and which was, in its turn, cut short by an attack of bronchitis.

[b] Read at a meeting of the Cork Medical Society.

involuntarily. She has not been exposed to cold or other cause to which this attack can be attributed.

On examination I found the skin hot and dry; pulse quick; tongue nearly clean, and quite moist; no headach or other cerebral symptom; there is much tenderness on pressure over the spine, especially that part between the scapulæ, and a blow in that situation causes pain, which extends to the right thigh; the abdomen is full and tympanitic; the right lower extremity is almost completely paralyzed in motion; the left is similarly affected, but to a much less degree; sensation is somewhat diminished in both.

I ordered a dozen leeches to be applied immediately to the spine, antiphlogistic regimen, a turpentine enema, and two purgative pills, to be followed by an oil of turpentine draught.

As I was unable to find the house, and was not sent for, I did not see her again until the 20th, when I found her in much the same condition; the enema and medicines having failed to operate, the bowels had not been since opened.

I ordered a repetition of nearly the same treatment.

21st. The bowels have been well cleared out of both fæces and flatus, and everything was passed involuntarily. The abdomen is still tympanitic and hard; the urine continues to distil guttatim, though the bladder is nearly empty. The feverish symptoms have almost subsided, but from the waist downwards she is now completely paralyzed, both as regards sensation and motion. She had a sign of the catamenia yesterday morning. I ordered a blister to be applied along the course of the vertebræ.

I did not see her again until the 25th inst., when I found that the blister had not been applied. Her general health has now much improved, and the appetite has returned; she has a sensation of creeping and heat in the palsied limbs, although they are completely insensible to external impressions, and are quite deprived of power of motion; she complains of what she calls a fit of empty straining, which attacks her every evening, and of a constant bad taste in the mouth. The pulse is quiet, and the tongue nearly clean; the bowels have not been opened since. I ordered calomel and opium three times a day, and a repetition of the turpentine enema.

27th. The enema caused a copious discharge from the bowels; she suffered during last night and this morning from a most distressing hiccough; she called for the vessel to-day, and made water voluntarily. Decubitus has caused an ulcer on the right hip, and inflammation of the left.

28th. I carefully examined the spine to day, and there is not now the least tenderness over any part of it.

March 1st. The bed-sores are looking better; the gums are spongy and sore; she states that when she is moved in bed, she feels as if she were breaking in two at the waist, and that when she is raised to the erect posture, she suffers from headach, giddiness, and dimness of sight and hearing; she complains also of a constant tendency to tremors of every part of her body, and chattering of the teeth, which she can control alone by a powerful effort of the will. Her appearance is now plump and muscular; spirits and appetite are good, and the tongue and pulse are normal. I omitted the calomel and opium.

2nd. She spent a bad night, and complains of feeling heavy and dull; she suffered much from the dry retching and hiccough since last report. Tongue continues clean; pulse is quick and weak. She complains of eructations which have a fæculent taste and smell; bowels confined. I ordered powerful aperients.

3rd. The medicine operated well, and the unpleasant symptoms of yesterday left her immediately after; she had a violent rigor this morning; there is a slight return of sensation in the lower extremities, and the paralysis does not now extend above the crest of the ilium. The sphincters have completely regained their power.

4th. The rigors have continued almost incessantly since, but in other respects she is better; the bowels have been opened spontaneously, and the discharges resemble meconium; there is a decided improvement in the sensibility of the lower extremities, as she complains of pain in the knees, and is able to appreciate sensations of heat and cold applied to them.

5th. The thighs are now morbidly sensible to touch; a large sloughy bed-sore has formed on the left hip, notwithstanding the greatest care and attention; there is some irritative fever to-day, but there has been no return of the rigors; the back is quite free from pain or tenderness.

7th. New gangrenous sores of large size have formed over the right hip and sacrum, with which the constitution sympathizes; there is now considerable hyperæsthesia of the entire lower extremities; but power of motion is not increased. I ordered opium pills and beef-tea.

9th. The morbid sensibility has subsided, and been replaced by almost total paralysis of sensation; the irritative fever, consequent upon the bed-sores, runs high, and is accompanied by much prostration; she still has occasional attacks of retching and hiccough. I ordered iron and aloes.

12th. Tongue dry and furred; pulse quick and very weak; countenance sunken, and marked by some lividity; moist rales are heard in all the bronchial tubes, and other indications of sinking are met with; another large gangrenous ulcer has presented itself over the right knee, and is surrounded by erysipelatous inflammation, and vesication; the old sores look most unhealthy, and have greatly enlarged; both heels are yellow, and the cuticle has become thickened, indeed the entire of both soles appears as if covered by yellow cow-hide. I ordered three grains of quina three times a day, with porter, beef-tea, &c. &c., and mustard cataplasms over the chest.

13th. She spent a good night, and the whole system has rallied; all signs of dissolution have vanished, but the suffering from the ulcer is still excessive; I continued the quina, and ordered her to take a grain of opium every third hour.

15th. Suffering much less; slept well, and is greatly improved. Medicines to be continued.

18th. Much better; up to the present time there have been no reflex startings in the paralyzed limbs, but now they are occasionally experienced.

23rd. Most of the sloughs have separated, leaving large but healthy-looking granular surfaces. The reflex startings have increased. The medicine to be continued, and also the opium pills at night.

30th. She has been improving ever since on the quina and generous diet. The reflex motions are now very severe, and disturb the ulcers so as to produce much pain. A very large gangrenous ulcer was discovered yesterday over the sacrum; sensibility has improved much, but power of motion has little increased; she can, however, move the toes by a powerful effort. She complains much of the weight of the lower limbs. The quina was omitted.

April 6th. The bed-sores over the sacrum have spread rapidly, and look most unhealthy. The whole mass of both glutei, and the upper part of the thighs, are covered with numerous patches of ulceration and small sloughs. The vulvæ are much ulcerated, in consequence of being obliged to lie entirely on the face and hands. The right leg and thigh are enormously swollen, but not œdematous; she continues to possess perfect control over the sphincters. The reflex motions are much less.

30th. The sloughs have separated, and the ulcers are healing rapidly; the thigh continues swollen; the appetite is good, and the spirits wonderful, although she has had to lie entirely on the face and hands ever since the back became ulcerated.

May 6th. The sores were so much improved yesterday that I had her turned, and she sat upright for an hour. The change of posture caused the ulcers to bleed, and gave great pain; to-day they appear much inflamed, and have enlarged considerably; pulse quick and weak. Opium to be taken as required.

12th. Much better; the sores have again assumed a healthy appearance; that on the sacrum has contracted to the size of my hand; and those on the hips, knees, &c., have nearly cicatrized; the whole surface of the buttocks and thighs, which was almost uninterruptedly inflamed, ulcerated, or mortified, has assumed a healthy appearance; the general health is good, but the thighs are both much swollen; the paralysis still continues, and startings are experienced at intervals.

June 1st. All the symptoms have been improving since last report; she sat up yesterday, and the change of posture has again caused a relapse.

14th. Sores have all cicatrized, except that over the sacrum, which is reduced to about an inch and a half in diameter; reflex motions have nearly ceased; motion still continues in the toes, but has not extended, as she complains that the legs and thighs are too heavy to move; sensibility is almost perfect; menstrual function is dormant. Iron and aloes were prescribed.

22nd. She has sat up for a short time during the last few days; a considerable quantity of a milky, clammy fluid was discharged from the uterus, accompanied by menstrual sensations, and continued for a day or two. Iron and aloes to be omitted.

July 7th. Much improved. Repeat the pills of iron and aloes.

30th. The same attempt at menstruation was repeated a few days since; power of motion is very gradually returning; she still lies altogether on the face and hands.

August 13th. The skin of both heels has come off entire, and as hard and thick as cow-horn; large sloughy ulcers are left on each, which cause much irritative fever.

19th. The menses came on to-day, and were natural in appearance, though scanty; she is much improved in other particulars.

26th. She had a severe rigor to-day, which lasted for three hours; it resembled the cold fit of an ague, and was followed by hot and sweating stages.

29th. The paroxysms resembling ague appeared again to-day, and ran through regular stages.

30th. Tongue is furred; pulse quick and weak; eyes some-

what congested; the right thigh is much swollen, and presents an erythematous blush all over; up to the present time the paralytic symptoms have been subsiding gradually, but she still continues to lie on the face and hands, as the bed-sores have not quite healed; sensation has continued perfect for some time past; the reflex motions have ceased, and the general health was excellent until the supervention of the rigor on the 26th inst.

I ordered her quina, and local applications to the thigh.

Nov. 8th. It is now nearly three months since last report. The catamenia have returned regularly, though scantily, ever since; the general health has been excellent, and she has been sitting up every day; sensation has continued perfect in the lower extremities; the power of motion has improved a little in the feet and toes, but is still entirely absent in the legs and thighs; the swelling of the right thigh has much reduced, but it is still enlarged, and presents somewhat the appearance of phlegmasia dolens.

10th. A new gangrenous ulcer has formed over the left knee, and its inflammation extends to all the surrounding textures and the joint itself.

11th. The ulceration has extended to the joint, and evacuated the synovial fluid; the pulse is rapid and feeble, and the irritative fever excessive; the jerking of the lower limbs has returned, and increases the pain. Pills of opium, to be taken as required.

13th. The synovial fluid still continues to drain from the joint; both legs and thighs are now swollen and œdematous from dropsical infiltration; all the old cicatrices have opened, and present an inflamed and gangrenous appearance. Nourishment was given freely, and the opium continued.

18th. The lower extremities are now almost a mass of sloughy ulceration, accompanied by much swelling and dropsical infiltration.

25th. The sufferings are intense, and are fast wearing out her strength; the jerking of the limbs is most distressing; sensation is perfect, or rather exaggerated; motion is still retained in the feet and toes.

26th. It is wonderful that she has survived so long under such constant and excessive suffering; the thigh bones have become curved, probably from softening of their texture and the position in which she lies (on the face and hands); there is now a slight cough and some emaciation; the synovial fluid has since escaped from the other knee and from both thigh joints.

Jan. 9th. She is now sinking rapidly; two large sloughs have separated from the inner side of the left leg, and given exit to a large quantity of serous fluid, reducing somewhat the swelling of the limb.

12th. She died this morning.

Twenty-four hours after death I proceeded, with my friend, Dr. H. Hobart, to examine the body. The appearances presented were as follow:—

The anterior part of the crest of the right ilium is entirely denuded, and necrosed to the extent of several inches; the entire sacrum and coccyx, with part of the sacro-sciatic ligaments, are bare and necrosed, and form the base of one large ulcer, which communicates with the interior of the pelvis by deep sinuses; the great trochanter of the right femur protrudes through an ulcer which covers the hip, and communicates freely with the joint; the thighs are both curved towards the left side, and cannot be straightened; both knees are flexed and firmly anchylosed; the inner condyle of the left femur is entirely denuded and necrosed; the right is also laid bare; both legs and thighs are enormously swollen with infiltration, and present numerous large ulcers; there are flexion and anchylosis of the right elbow; emaciation is not so marked as should have been anticipated from the long duration of the patient's illness.

We laid bare the spinal marrow in the dorsal and lumbar regions, and failed to detect the smallest pathological change in either the cord, its meninges, or the surrounding parts. We were, unfortunately, not permitted to examine the other organs, or the condition of the arteries and veins of the lower extremities.

A review of the treatment adopted during the acute stage of the case will show that my first opinion was, that an inflammatory condition of the spinal marrow, or its meninges, existed: and although the subsequent stages of the complaint, as well as the post-mortem examination, tended to contradict this diagnosis, I think the symptoms and physical signs were sufficient to warrant it at the time; for inflammatory fever ran high, and both sensation and motion were diminished in the lower extremities; the peristaltic action of the intestines was paralyzed, and the sphincter of the bladder had lost its control.

These symptoms alone might have been explained by the assumption of abdominal inflammation; but we had, in addition, the positive indication afforded by percussion of the spine, conjoined with the negative sign derived from the absence of any marked tenderness on pressure over the abdomen; which,

taken together, not only rendered the existence of abdominal inflammation improbable, but pointed to the spine, or its neighbourhood, as the seat of inflammation. It was highly improbable that the spinal tenderness was not caused by some disease of the bones themselves, or their contents; and the extent of the surface over which it existed pointed rather to the latter than the former; but although improbable, it was just possible that its cause might have been deeper seated than even the bodies of the vertebræ themselves,—*that the aorta, which rests on these bones, might have been the seat of the pain produced by their percussion;* and it may be remembered, that "*a blow on the spine produced pain which extended to the right thigh*," the extremity first affected.

The explanation of this is obvious, if the aorta and its right branches were inflamed; but I did not take this view of the case at the time, and went on prescribing for an inflammatory affection of the spinal marrow. The treatment adopted would probably have been nearly the same, even had the diagnosis been more correct. The antiphlogistic remedies I adopted removed the spinal tenderness in a short time; but the paralysis of the lower limbs, instead of diminishing, increased: this might have been the result of effusion, and I accordingly put my patient under the influence of mercury. She began to improve the very next day, and soon regained perfect control over the sphincters; before long, sensation suddenly returned in the lower limbs; the day after, hyperæsthesia of these parts was complained of; and four days subsequent to this there was again complete paralysis of sensation. I now took an entirely new view of the case, and considered that, from the first, the symptoms had been altogether hysterical, and had only simulated inflammation; I accordingly directed my attention to the uterine organs, and ordered iron, aloes, &c. Now, however, new complications arose; the affected limbs evinced a strong tendency to gangrenous inflammation, so much so that not only did decubitus cause large ulcers, but parts which had not sustained the least pressure inflamed, ulcerated, and mortified; irritative fever became established; and it was evident that dissolution was rapidly approaching. I immediately gave quina in large doses, &c.; and when at the point of death the patient rallied, only to be reserved for a more horrible end.

From this time she improved in every point of view, though by no means uninterruptedly, and recovered sensation in the limbs. During the months of May, June, July, and part of August, she enjoyed excellent health, and was gradually regaining the motor power of the legs, when she was seized

with symptoms which closely resembled paroxysms of ague, and which recurred two or three times, at nearly regular intervals; these were followed by a slight relapse in the local diseases, but were controlled by quina; and during the three following months she steadily improved, both in general health, in the healing of the ulcers, and in the motor power of the feet and toes.

During this period I entertained most sanguine hopes of her recovery, especially as the improvement had followed upon a restoration of the uterine functions to almost their normal condition; but I was disappointed. On the 10th of November, a new ulcer, but resembling the former in its unhealthy character, formed on the knee, without being preceded by any exacerbation of either the general or local disease, or by any ascertainable cause; it quickly enlarged both in superficies and depth, and in a short time communicated with the joint; irritative fever became again developed; and dropsical infiltration of the lower limbs set in. Deficient vitality of every texture, including the bones of these parts, was evident from the rapidity with which diseased action extended, and at last almost all the joints were laid open by the ulcerative process. The constitutional symptoms increased to the day of her death, and at last wore her out.

This poor girl's mother, remarked to me a few days before her death, "What could have come over my child, that she was attacked by such a dreadful disease," and "truly it was a mighty disease;" the lower half of her body was deprived of vitality long before life became extinct. It was not paraplegia in the ordinary acceptation of the term, for there never was that wasting of the limbs which follows simple absence of cerebro-spinal power; the spinal nerves had, it is true, lost their functions to a certain extent; but one of these functions, sensation, came and went again and again, so as to induce me to believe in an hysterical origin of all the symptoms; and this opinion was strengthened by the fact observed by authors, that nutrition does not suffer in even permanent hysterical paralysis. But there was something superadded to ordinary paraplegia in this case: the supply of blood to the lower extremities was evidently insufficient, and this it was which made the case so alarming, and ultimately caused its fatal issue. It was not until after the patient's death that a careful study of all the phenomena which had presented themselves, as well as a search through such medical literature as I could obtain, led me to the belief that arteritis alone could explain all the symptoms. I had previously been incredulous as to their hysterical origin,

because the paralysis, although it had to a certain extent diminished coincidently with the return of uterine health, had persisted long after the catamenia had commenced to appear regularly, as well as because the train of symptoms which ushered in death was neither preceded nor accompanied by any symptoms directly referable to the uterus.

Paralysis of the lower extremities may be caused by enteritis, dysentery, renal or vesical disease, metritis, hysteria, &c. &c., as well as by lesions of the spinal marrow or neighbouring parts; but none of those causes were in operation in the case before us[a].

We have all seen partial paralysis produced by mal-nutrition of certain nerves in anemic and other subjects: now such cases prove, that the nerves are as perfectly incapable of carrying on their functions without a due supply of arterial blood, as they are when the mysterious agency which they normally receive from their centres ceases to be transmitted to them; but a cessation of the circulation is also capable of producing mortification; and thus we have an explanation, on the assumption of arteritis, of the two most prominent phenomena in the case before us. It may be said, indeed, that the gangrene was not progressive from the toes upward, as occurs in gangrena senilis, where the cause is undoubtedly obstruction of an artery; but we must remember that the causes of obstruction are not the same in the two. In arteritis, the current of blood through all the main channels is not necessarily stopped, although the branches leading to certain spots may be so completely plugged as to cause their death; and, besides, the fibrinous plugs of arteritis may be moved onward by the force of the circulation. That these may be results of arteritis is demonstrated by a case which occurred in the practice of Dr. Romberg, of which the symptoms and post-mortem appearances are given in detail in his work on the Nervous System[b]. I shall give a short epitome of them, as the symptoms resemble so closely those which occurred in the case now reported, that the post-mortem of the one cannot fail to throw light on the other.

A gentleman, aged 29, was attacked with feverish symptoms, accompanied by rigors, which recurred at irregular intervals once or twice daily; soon after, the lower limbs were affected with "coldness, anæsthesia, and difficulty and pain in movement;" urine passed involuntarily; left leg and foot œde-

[a] Dr. Holland and myself both carefully examined the urine and found it normal.
[b] Sydenham Society's Edition.

matous; calf of leg covered with dark sugillation; sole of foot dark yellow. The lower extremities, as the disease progressed, became completely paralyzed, except the toes, which could be moved by a powerful effort, no pulsation felt in the arteries; tenderness over the femorals. The skin of the right leg soon after became shrivelled up and ecchymosed; decubitus caused ulcers over the sacrum, extending to the great trochanter; a large blister formed on the left knee; the superficial veins were felt like broad cords; several blisters formed on the leg, and the skin presented a dark purple colour; gangrene extended; epidermis peeled off the left leg, leaving the cutis pulpy and black; sphacelation formed on the leg and heel, and gangrenous action extended in the limb, until death closed the scene in six weeks from the first day of attack. I have intentionally omitted mention of symptoms which accompanied this case, and were distinctly referable to endocarditis, by which the paraplegia was complicated, and which may have been the cause of this gentleman sinking in so much shorter a period than my patient; but, in other respects, I think the phenomena presented by this case were so remarkably similar to those which more slowly destroyed the life of Anne Mahony, that its post-mortem appearances may be considered a key to the pathology of her unexamined arterial system, and on that account I need not apologize for transcribing that part of it which concerns us, at full length.

"In the abdominal aorta, there was found close to its bifurcation a firm, pale-red coagulum, which completely closed up the artery; this plug was continued into the two iliacs, and terminated in a fine conical point. Where the left internal iliac passes off, a similar exudation was found, of the same density, but of a lighter colour. The left external iliac was blocked up with a similar coagulum, containing much cruor, up to the point at which it passes under Poupart's ligament; it was easily detached from the internal membrane, which itself was thickened, reddened, and pultaceous, and could easily be separated from the middle or fibrous coat. The fibrous coat and the external cellular sheath were also thicker and more lacerable than they are in the normal condition; there was plastic exudation between the membranes, which could easily be perceived in the tissue surrounding the arteries; the latter was strongly inflamed below Poupart's ligament, and the lymphatic glands of this region were also much swollen and reddened; at the point where the profunda femoris is given off from the femoral artery, there was a firm plug, which could only with difficulty be separated from the inner membrane, and presented

a deep colour; a prolongation of this clot extended into the profunda, so that the coagulum resembled a tooth with two fangs; the further course of the femoral was filled with a thinner coagulum, containing more cruor, and its internal coat was villous, rough, and much reddened; lower down it was free; but at the point where it passes through the adductor magnus it was again firmly closed by a firm pale plug, the inner coat being reddened, pulpy, and swollen." The left saphena vein was narrow and contracted, its lining membrane pale and corrugated; lymph was effused into the surrounding areolar tissue, which was much inflamed. Dr. Romberg, in his remarks on this case, connects in some measure the endocarditis with the arteritis; and he explains the difference between the moist gangrene of the left limb, and the "dry mummification" of the right, by the implication of the left saphena vein. It will be remembered that the gangrene was moist in both the limbs of my patient, and that she suffered besides from dropsical infiltration; showing that the current of blood through the venous system was to a certain extent, at least, arrested; and as no disease of the heart, liver, or kidneys was discovered during life, though sought for, it is more than probable that the veins of the affected extremities were the seat of obstructive disease; but that the affection of the vein was secondary is proved by the symptoms not having presented themselves until the last few weeks of life, as well as by the impossibility of explaining the paralysis, and other symptoms of early date, as its consequence.

It was very unfortunate that a more extensive examination of the body of my patient was not permitted, as although, from what has been now laid down, it is evident that the probabilities are strongly in favour of her having died of the effects of arteritis we cannot be perfectly certain that such was the case, and it is of great importance to have certain data to argue from, when a case presenting such unusual complications is met with in practice.

The extent to which ulceration of the surface, and exposure of the deep and delicate tissues of the joints, were carried, weeks before the fatal event ensued, seems almost incredible; but I have not exaggerated in the least; indeed, on the contrary, so great was the disorganization, that no words could adequately express the horrors of the spectacle which was presented to Dr. Hobart and myself, on the morning of the post-mortem examination.

Art. XI.—*On Displacement of the Scapula: Illustrated by a Case*[a]. By S. Henry Hobart, A.B., M.B.T.C.D., M.R.C.S.E., Medical Officer, Cork Dispensary.

Patrick Buckley, a labourer, aged 35, has been in the habit of carrying heavy beams of timber on his shoulder; he states that about two months since he found his right arm getting weak, without any assignable cause; the weakness increased gradually, until a few days ago, while dressing, "he put his left hand round behind his back to scratch himself," when he was surprised to perceive the right shoulder-blade sticking out in a very remarkable manner; this so excited his alarm that he applied next day to Dr. O'Brien, in whose neighbourhood he lived, and by whose recommendation he came on the following day, January 27, 1854, to the North Infirmary.

On stripping he is seen to be a powerfully muscular man; he has full strength in all the muscles of the arm and fore-arm, as far as the underhand motions are concerned, so that he can lift as heavy a weight as ever he could at any time; but when he attempts to elevate the arm, or to hold it out from the body, the defect becomes evident, for he is scarcely able to raise it above his head, and cannot retain it in that position for more than a few seconds; while at the same time the base of the scapula becomes exceedingly prominent behind, and approximates nearer to the spine than natural; it is also drawn up towards the neck, so as to be an inch or two higher than the one of the opposite side. The illustration[b] which was sketched by my friend Mr. Harding scarcely gives a perfect idea of the appearance, as the man being unable to retain his arm in the elevated position, which developed the deformity to its fullest extent, contrived to gain a little support from an easel that was within his reach, and this diminished the displacement considerably; when the arm was unsupported, the base of the scapula inclined farther back so as to be almost in a line with the spinous processes, while the upper angle became very nearly as prominent as the lower. The cause of this, I believe, would have been diagnosed, a few years since, to be displacement of the latissimus dorsi muscle off the inferior angle of the scapula; but the action of the latissimus is not to elevate the arm, but, on the contrary, to draw it down and approximate it to the side, so that any injury to, or loss of power of this muscle could not interfere with the overhand motions, which were alone

[a] Read before the Cork Medical and Surgical Society, February 14, 1856.
[b] See Plate 4.



Hodges, Smith & Cº 104, Grafton St.

Forster & Cº lith. Dublin

affected in the present case. It might be supposed that this muscle, by overlapping the inferior angle of the scapula, could have the effect of keeping it pressed close against the ribs, and that if this bone should, by any violent exertion, be caused to slip from under the muscle, it, being deprived of its accustomed support, would protrude. But, independent of the very disadvantageous position of this muscle for such a purpose (the force to be overcome being at right angles to the direction of its fibres), and the fact of one end of the muscle (viz. its insertion into the humerus), being extremely movable, any person examining the parts in a dissected subject will see that it required no very strained position at all to bring the angle of the scapula above the edge of the latissimus; and we might, therefore, fairly expect that this accident would be very common; while such a displacement of the scapula as is here seen is, I believe, extremely rare, at least in a strong muscular subject.

Again, it will be observed that the greatest amount of displacement occurred when the arm was raised and held out from the body; this is evidently the result of the weight of the limb tilting the scapula back; whereas, when the arm is close to the side, the muscles connecting it with the scapula become relaxed, and that bone is allowed to return to its natural position; from this circumstance it is evident that if the latissimus dorsi has the power of keeping the angle of the scapula *in situ*, there are associated in the one muscle two actions diametrically opposed to one another; for, whenever the arm is elevated, it would be necessary for it to contract with great energy to overcome the disposition of the scapula to protrude; while, at the same time, it would be equally necessary for it to be relaxed, so as to enable the other muscles to keep the arm in an elevated position. The absurdity of the idea, that two such opposite actions are associated in the one muscle is, I conceive, sufficient proof that the latissimus dorsi cannot be the principal agent for retaining the scapula *in situ*.

On looking to the front of the chest, a new light was thrown on the case, for, while the origin of the serratus magnus muscle was plainly to be seen indigitating with the origin of the external oblique on the left side, that of the right side was not to be seen at all, even during forced inspiration, or the most powerful exertion of the arm. I accordingly concluded that there was paralysis of that muscle, which I believe to be fully capable of producing all the phenomena.

The serratus magnus muscle arises from the anterior part of the eight or nine superior ribs, a short distance from their cartilages; the fibres run upwards and backwards, and are inserted into the whole length of the base of the scapula. On

the other hand, the rhomboid muscle arises from the ligamentum nuchæ, the last two cervical, and the first four dorsal spinous processes; the fibres run downwards and outwards, and are inserted into the base of the scapula in common with the serratus magnus; in fact, the two form, as it were, one digastric muscle, the fibres being continuous in direction, and their actual continuity of structure being only interrupted by the narrow tendinous line corresponding to its attachment to the base of the scapula. Now this digastric muscle, being stretched over the convex surface of the ribs, when it contracts, must of necessity press firmly against that surface, and will, of course, carry with it the base of the scapula which is attached to it; but if either of the individual muscles be paralyzed, the one will not be able to retain that bone in its position without the co-operation of the other. If the rhomboid were paralyzed, for instance, the serratus would contract as far as it was capable of doing, drawing the scapula downwards and forwards, but it would have no power of itself to keep that bone pressed against the ribs; while, in paralysis of the serratus, on the contrary, the rhomboid would, in its turn, draw the scapula backwards and upwards, and the weight of the arm, on being raised, would immediately cause it to protrude, exactly as it does in the present instance.

Taking this view of the case, I determined to try the effect of galvanism, and accordingly passed a series of pretty strong shocks along the course of the paralyzed muscle, by applying one pole of the apparatus to the base of the scapula, moving it up and down alternately so as to act on the entire insertion of the serratus muscle, and the other to the front or side of the chest, moving it in like manner from one part to another of the extensive origin of that muscle; the application was continued for about a quarter of an hour, and the patient declared, on raising his arm immediately afterwards, that he felt greatly benefited.

January 29th. The benefit derived from the galvanic shocks on the 27th is somewhat permanent, as he can now elevate the arm better, and hold it so longer than before; but the scapula appears quite as prominent as ever, nor is there any appearance of the serratus magnus in front. The galvanic shocks were again applied as before. The fibres of the serratus can now be seen twitching at whatever point the electricity is applied; this effect was not observed on the 27th, and the contraction is still feeble; while the same shock applied to the pectoral, or to any of the healthy muscles, causes most energetic contractions.

February 2nd. The arm is stronger to-day, and the patient

feels great confidence in the galvanism; the scapula appears to be scarcely so prominent as at first; galvanism again applied; the serratus contracts somewhat more energetically than before; and during its contraction the base of the scapula is distinctly drawn forwards towards the ribs, though not fully into its natural position; this effect is very obvious while the elbow rests on the table, but, so long as the patient holds the arm out from the body, the imperfect contraction of the muscle has but little effect on the position of the scapula.

4th, 7th, 13th. The shocks were repeated with considerable benefit; but owing to the man having to come a considerable distance, viz. from Monkstown, the walking backwards and forwards, about ten miles each way, occupied more time than he could afford to lose, and he was obliged to discontinue his attendance, it being impossible to obtain admission for him into the hospital.

At present all the symptoms I have mentioned still exist to a slight extent; on raising the arm the scapula does not protrude at first to any great extent, but after a while it yields, as if the muscles retaining it *in situ* became tired. He says he has long since recovered the full power of his arm, and that the improvement which was effected by the galvanism not only remained permanent, but that, even after it was given up, he continued to improve, though not so quickly as while the galvanism was being applied. On looking to the front of the chest, the serratus magnus of the right side is now visible, particularly when the arm is raised, though it is not near so well developed as that of the left side; indeed, the latter appears to be possessed of more than ordinary strength, but when we observe that the patient is an unusually muscular man, this does not seem so much out of proportion to the other muscle; when he first applied to me there was not the slightest appearance of the serratus at the right side, and the scapula was far more prominent than it is now.

Even now, when the scapula is displaced, by holding the arm out from the side, the latissimus dorsi is thrown off the angle of that bone, but this, I feel satisfied, is the effect, not the cause, of the displacement of the bone; if we look to the opposite side, that muscle is seen to cross the angle of the scapula, but it overlaps it only by an inch or so; and it must be evident that any considerable displacement of the scapula backwards must slip it from under the edge of that muscle. Thus there are three ways at least in which the scapula may be caused to project, in a manner not unlike the present case, viz. in lateral curvature of the spine, in case of a tumour of any descrip-

tion being formed between the scapula and the ribs, and in paralysis of the serratus magnus,—in all of which I have no doubt that, when the protrusion of the scapula is sufficiently great, the latissimus will be found to be displaced, although it will not be pretended, at least in the two former cases, that it was the original cause of the protrusion of the bone.

Art. XII.—*Observations on Marshall Hall's Theory of the Nervous System.* By Robert Reid, M. D., Fellow of the College of Physicians of Ireland.

My attention has been directed to some Lectures which have been published in the Lancet, by Dr. Marshall Hall, in which that physician claims to have been the first who undertook to point out the arrangement of the nervous structures in the animal body into three divisions, which, he says, he has distributed as having relation to three centres, viz., the cerebral, the spinal, and the ganglionic systems. I think it right to state, that *some years* prior to his statements on the subject, the medical public might have been acquainted with such a distribution of the nervous structures, by essays which I had published. These papers have been noticed by almost all the medical journals, both foreign and domestic, of the day. It is difficult to suppose how Dr. Marshall Hall could have avoided meeting with statements which bore such relation to subjects in which he seemed to be so much interested. I may mention, of these, a Treatise, by me, on Tetanus and Hydrophobia, which was published in 1817; and an Essay on Fever, which was published in the third volume of the Transactions of the College of Physicians of Ireland, in the year 1820.

Dr. Marshall Hall states, that his first memoir was published in the Philosophical Transactions, in June, 1833; and his second memoir, which was rejected by that learned body, was given to the public in 1837. In his anxiety for priority of publication, his Lectures on the Nervous System, published in 1841, he says were written in 1835.

From these evidences it appears clearly that Dr. Marshall Hall is not the first who promulgated the fact that the nervous structures in the animal frame are by nature distributed into three centres, to which all their influences are reciprocally referred. With these facts before his eyes, it is difficult to conceive how Dr. Marshall Hall could make an assertion that he was the first who stated these views of the nervous structures.

I should not have taken notice of these facts, but that the

want of a real acquaintance with the functions of each of these centres has led to the inextricable confusion with which these writings have obscured the simplicity of the subject. I may be allowed to make a few extracts from his book On Diseases and Derangements of the Nervous System, published in 1841.

In the third paragraph of the Introduction it is asserted that in the "vis nervosa" of Haller, the principles of motion were unknown to physiologists before the publication of Dr. Marshall Hall's discoveries. The human frame, although constituted of various systems, is one and indivisible: in order to accommodate this difficult and complicated subject to our limited understanding, he has found it necessary to proceed *analytically!* hence he speaks of the nervous, the respiratory, the digestive, the urinary, the uterine systems, as distinct objects of inquiry. And he asks:—"Is there in any class of animals a distinct *anatomy* of the excito-motory power? Are there excitor nerves distinct from nerves of sensation? Are there motor nerves distinct from nerves of volition?"

From considering these observations, it appears very plainly that this writer is obliged to notice the possibility of the existence of other nervous structures, which must be endowed with functions distinct from those centres which he has enumerated as having the power to influence the nerves which are distributed through the general frame. He states,—"In the first place, that the olfactory, optic, and acoustic nerves are nerves of sense only, and destitute of excito-motory power. So are the cerebrum and cerebellum, the former of which is probably the centre of the sentient and voluntary system. Is there a pure *voluntary* nerve?—a nerve which conveys the acts of the will without possessing the motor or excito-motory power? It appears to me that *one* such purely voluntary nerve may exist; for every muscle of the animal frame, with this exception, seems to require *tone*, which is a result of the excito-motory power, conveyed by motor nerves probably involved, in general, in the same *neurilemma* with voluntary nerves. This power acts during *sleep* in *all* muscles except the *levator palpebræ*, and perhaps the four recti oculi.

"But as there are purely sentient nerves, it may be a question whether there be purely excitor nerves. Such a nerve, probably, does not exist absolutely in health. An experiment made by Mr. Broughton, Mr. Field, and myself, in 1835, led to the conclusion that the *pneumogastric* nerve is destitute of sentient property. This nerve is certainly the least sentient, and the most purely excitor, of any in the class Ver-

tebrata. In certain cases of disease we, however, observe the sentient power annihilated, while the excito-motory still continues. This occurs in those diseases of the brain which destroy the sensibility of the face; the excito-motory property may remain, and the eyelash and the nostril be as susceptible of stimuli as ever. In the experiments in which the cerebrum, the *centre* of the sentient and voluntary system, is removed, and in diseases, and in other experiments, in which the upper part of the spinal marrow is disorganized or divided, the phenomena which remain are entirely of the excito-motory class. Sentient and voluntary nerves are blended with the excitor and motor nerves, but their functions are suspended when the influence of the centre of the system is cut off. The centre of the excitor and motor nerves being appropriate portions of the spinal marrow itself, the functions of these nerves remain.

"Still, the two sets of nerves are generally blended anatomically. If they be distinct in any class of animals, it is, probably, in the Invertebrata, and especially in their lowest forms, in which sensation and volition are nearly extinct, and the animal lives a sort of excito-motory life only.

"But if the existence of a *distinct* anatomy of the excito-motory system be doubtful, that of the *blended* anatomy, and that of the distinct physiology, pathology, and therapeutics of this system, are perfectly obvious."

"The cerebral system is separated from the true spinal, in hemiplegia, as frankly as in our best devised experiments."

The writer then stumbles upon what he calls a "most interesting phenomenon of the nervous system,—that of sleep. Deep and quiet sleep greatly removes the influence of the cerebral system, leaving the true spinal and the ganglionic in full action." "Not less so is that singular affection of the nervous system much allied to sleep, and repaired by sleep, termed *fatigue*. Both sleep and fatigue are affections of the cerebral system, and only remotely connected with the true spinal and ganglionic."

Has the writer any idea of what sleep is?

In the Table of the nervous system, the spinal system is stated to have for—

1. The principle of action, the vis nervosa of Haller.
2. Its modes of action are excited and reflex, or direct.
3. The reflex functions are those of—
   - (1.) Ingestion and Retention.
   - (2.) Egestion and Exclusion.
4. The direct functions are—
   - (1.) The tone
   - (2.) The irritability

   } of the muscular fibre.

This appears an example of want of accuracy in the use of terms, and, when considered along with other definitions to be noticed further on, will exhibit the most utter confusion of terms and functions.

The writer states, that "the designation cerebro-spinal is incorrect." And in the next paragraph it is stated:—"The cerebral system comprises every part of the nervous system which relates to sensation and volition, the nerves of *sense*, *and the whole of the nerves of voluntary motion.*" Where is the spinal system in all this?

"The cerebro-spinal subdivision of the nervous system, or, as it would be more correctly designated, the cerebral, is the system of sensation and volition; it is that by which we feel and perceive external objects, and by which we approach them, and appropriate them to our use exteriorly." He then states, that the apparently simple operation of raising an object off the table requires three portions of anatomy, viz.:—

"1. Certain nerves must proceed continuously, uninterruptedly, *from* the points of the fingers *to* the cerebrum, the centre of this system.

"2. The cerebrum must be in a state of integrity.

"3. Certain nerves must proceed from the cerebrum to the muscles which are to be called into action.

"There are, then, two sets of cerebral nerves:" which assertion is absurd. And in paragraph 75 it is said to have been universally known that these nerves were nerves of sensation and nerves of motion. In a subsequent paragraph the author states, that "the aganglionic nerves are the voluntary or motive nerves."

From these extracts it would appear that, according to the arrangement of the nerves, the cerebral, the spinal, and now the ganglionic nerves, are to be considered as endowed with the functions of volition, and also of motion. In paragraph 106, the physiology of the cerebral system is said to "comprise sensation in all its forms: perception, judgment, volition, and *voluntary motion.*" "It is obvious, then, that a sensation may lead to an act of volition or an action of emotion. These must be carefully distinguished."

"The distinctive character of voluntary motion is its spontaneous occurrence. Without sensation, without emotion, the individual *wills*, and a voluntary movement succeeds."

"Sleep is an affection of the cerebral system; it is *its* repose." The author here observes:—"The true spinal and the ganglionic systems never sleep. They only feel the *effect* of sleep in removing the participating agency of volition in some of the excito-motory acts, especially in that of the respiration."

Has he never met an essay on Dreaming by the late Andrew Carmichael, which was published in the Transactions of the College of Physicians of Ireland, where it is clearly proved that sleep is caused by the process of renovation of the parts which have been in action, and require the removal of the particles which have had their function exercised? How therefore can sleep be considered the repose of the brain, when it is so busy in appropriating the fresh particles necessary to enable it to continue its functions? This circumstance occurs in all the three systems with the same effect, and therefore it cannot be asserted that the true spinal system, and the ganglionic system, never sleep.

"Another *function* of the cerebral system is the sense of fatigue."—Is fatigue a function? And how can the *character* of voluntary motions, as stated in paragraph 117, be that of being frequently *spontaneous?*

"The true spinal or excito-motory system involves a system of incident and reflex nerves, connected with the true spinal marrow as their centre." It seems difficult to understand what the writer means by the term *reflex nerves.* In some places he seems to think there are nerves for the purpose of conveying impressions towards the centre of the system, while others are devoted to convey impressions from the centre to the parts to be acted on, thus implying the existence of two sets of nerves, which he has not been able to demonstrate. Were the author, however, acquainted with the fact, that the nerves only perform their functions at their sentient extremities, he might perceive there could be no necessity for the complicated structures which he supposes. How usual is it for patients who have suffered amputation to complain of pain in parts of the amputated limb.

In the "*anatomy* of the true spinal system," a statement is made, that a new kind of action of the vis nervosa has been demonstrated, and, physiologically speaking, a new kind of nerve; that is—

I. An incident motor action; and—

II. An incident motor nerve.

Although this is said to be a *demonstrated fact,* it has been well stated by him, that this is not to be found in the works of any other physiologist.

"By the cerebral system we are placed in relation to the external world, psychically or mentally; by the true spinal system we are placed in a similar relation physically. As by the former we imbibe all our ideas, so by the latter we appropriate external objects to our very substance. On the true spinal system, all ingestion, all retention, all expulsion, in

regard to the animal frame and economy, depend." To this statement, the author's own observation appears most applicable,—"It is impossible to argue with persons of such confusion of ideas."

"As the true spinal system governs the ingestion and egestion of masses, in regard to the animal economy, so the ganglionic system regulates the interstitial absorption, deposition, re-absorption, and the secretion of the atoms or particles of which the animal body is composed, and of the ingesta and egesta." "It was to be expected, therefore, that there would be an external as well as internal ganglionic and nutrient system. This we find accordingly, although it has never been so viewed or stated before. "There is an internal nerve for formation, nutrition, secretion, &c.; this nerve is ganglionic. There are external organs and structures requiring nutrition, &c. There are also external ganglionic nerves."

I have thus made a few extracts from Dr. Marshal Hall's book on Diseases and Derangements of the Nervous System, published in 1841. They may afford evidence of the inextricable confusion in which the statements throughout his book have enveloped all the simple operations relating to the physiology of the human frame. If Dr. Marshal Hall understood the real powers of the three systems into which the nerves are naturally distributed, he would not be seeking after other systems which do not exist in nature.

The ganglionic system is that by which particles are assimilated to the supply of the animal body, and which particles, having performed their destined office, become unfit for any further appropriation. The spinal system is the regulator of all kinds of motion in the animal frame; and the cerebral system, by means of the senses, preserves the individual in relation with the external world. By means of its influence internally, the different organs make choice of the principles derived from the food, &c., fit for assimilation in each peculiar structure; and by means of the intellectual functions the human body is held in relation with the immortal soul. Thus all the actions of the animal frame can be resolved into assimilation of foreign particles; the moving powers to convey these particles to the different parts requiring their presence; and deposition of these particles upon the parts requiring them by the influence of the cerebral system. To this simple distribution of the nerves, all the actions of the animal frame may be referred, while life continues. And I may observe here, that they govern the animal body in the most complicated structure, as well as in the most simple and least complicated organization of life.

Art. XIII.—*On Acute Farcy Glanders.* By S. Browne, R.N., M. R. C. S. E.; Surgeon to the Belfast General Hospital and Ophthalmic Institution.

It is my melancholy duty to lay before the readers of the Dublin Quarterly Journal some notice of a case of the most fearful and fatal malady to which the human subject is liable, —dread hydrophobia itself not even excepted. Acute farcy glanders is the affection to which I allude. Before, however, entering upon the details of the case under consideration, I beg to offer a few remarks upon the nature of this formidable disease as it appears in the horse, the animal from which, so far as we know, the disease has originally sprung. Percival, in his admirable Hippopathology, defines "glanders to consist in a discharge, from one or both nostrils, of matter which by transfer or inoculation will produce the disease in another animal of the equine or human species, and which discharge is, sooner or later, accompanied by vascular injections and chancrous ulceration of the Schneiderian membrane, by tumefaction of the submaxillary lymphatic glands, and by *farcy*." The same author defines farcy as follows:—"Farcy consists in the appearance upon such parts of the body as are known to give passage to the lymphatic vessels, of swellings, in the form of nodous cords,—*farcy buds*, which, in time, ripen into pustules, and terminate in ulceration." Coleman, Percival, Leblanc, and many other veterinarians, have proved that glanders and farcy are identical:—"1st. From the reciprocity of production through inoculation. 2nd. Their traceableness to the same exciting causes. 3rd. Their termination one in the other, which almost invariably takes place, when suffered to run their natural course, previous to death. 4th. Their frequently simultaneous appearance in the same subject, together with the similitude of the phenomena and course they exhibit." Leblanc considers that the lesion of glanders consists, "In a general alteration of the fluids of the body, in particular of the lymphatic fluid; this turns yellow, and becomes coagulated within the canals of the lymphatics, and the cavities of their glands, the tunics of the vessels thickening and turning opaque, exhibiting red points upon the inner surface, and adhering in places to the coagula within, and in other parts growing more or less softened, without, as yet, showing ulceration. In time, all the thickened parts of the vessel partake of this softening, spreading from a single point upon its circumference; the coagulum within softening likewise, and the areolar tissue corresponding to the point of ulceration becoming tumified, then hardening, and lastly softening; and now a little tumour

exists, having its seat in part in the lymphatic vessels, in part in the areolar tissue, observably close upon the situation of the lymphatic valves, which accounts for the accumulation of the lymphatic fluid in its incrassated or coagulated condition, not being able to pass the valves." And he is of opinion, that whether the appearance is found in the mucous membranes, skin, or respiratory passages, or in the lymphatics, it depends upon the same cause,—inflammation in the lymphatics, and change in the lymphatic fluid, such as has been described.

With regard to the producing or exciting cause, there has been difference of opinion among veterinary surgeons, but all admit that either glanders or farcy can be transmitted by inoculation, and it is generally believed among the medical profession, that in this way alone, by inoculation with either the matter of farcy or glanders, can the disease be produced in the human subject.

Rossi, however,—who made some very curious experiments, along with Savini, as noticed in the Dublin Journal[a]; for the purpose of showing the cause of glanders,—states that he produced the disease in dogs by introducing into their stomachs the matter from the nostril of a glandered horse, and that these dogs communicated the disease by contact, or contagion, to other animals of the same species.

Copland, in his Dictionary of Medicine, defines acute glanders as exhibiting "vascular injection, and chancrous sores of the membrane of the nose, frontal sinus, and parts adjoining, with a profuse discharge, and pustular eruptions, or tubercular or gangrenous ulcers in various parts, preceded by constitutional disorder, attended by fever of a low, malignant character, and produced by contagion." He believes that acute glanders, and acute farcy glanders, are identical, and he states that, "acute simple glanders may proceed either from the matter of farcy, or from its own discharge, and that acute farcy glanders may arise from the contact of the matter from the nostrils in acute glanders." He might have added, or from the discharge in chronic glanders also.

The Profession is indebted to Dr. Elliotson for the first clear description of the disease of glanders as it appears in man; and Dr. Graves, in his Clinical Medicine[b], mentions the symptoms observed by him in a case of glanders, and one of farcy, and draws attention to the white ring or wheal which he saw surrounding the pustules in these cases. His first case was clearly one of acute glanders, arising from inoculation, the nose

[a] First Series, vol. xv. p. 351. [b] Edition by Neligan, vol. ii. p. 332.

and respiratory passages being first attacked; the patient lived ten days from the appearance of the disease. His next case was one evidently of farcy, the disease having manifested itself in one of the lower limbs: this patient died after thirty-three days of suffering. With respect to the pustule with white edges, Mr. Colles, long before, described such as having been observed by him round the ulcers of subjects labouring under the effects of animal poisons.

Dr. Henry Graves, of Cookstown, has accurately described two cases of acute glanders, or farcy, which are recorded in this Journal[a]. In his cases, the disease manifested itself within forty-eight hours after direct inoculation with the matter from a glandered horse. The first patient survived through ten days of intense suffering from fever, pains in all the joints, limbs, and back, with pustules and sloughing ulcers on the left side principally, which had been the one inoculated, and finally, before death, he had discharges from both nostrils and left eye, with an intolerably fetid odour. In his other patient the disease ran a more rapid course, the man dying on the eighth day of the disease—the ninth after inoculation. The acute farcy symptoms were in this case similar to those observed in the other, but the glander symptoms, namely, the discharge from the nostrils, were not present, though they doubtless would have been had the man survived a few days longer.

In the eighth volume of this Journal, at page 442, Mr. Kelly, of Mullingar, also gives an account of a case of acute glanders. In this case the man died on the eighteenth day after the disease manifested itself—or rather from the date when he became indisposed. This case I recommend to the notice of the profession, as it has many points of close resemblance to the one I am about to submit. I do not agree, however, with his idea of the manner of infection, as I believe there was direct inoculation, of which, indeed, Mr. Kelly himself gives pretty conclusive evidence; though he leans to the belief that the disease was produced by inhaling the breath of the glandered horse from which the affection came!

About three years ago I saw a case of acute farcy glanders in the Belfast General Hospital, under the care of my friend and colleague, Dr. Pirrie. In this case there was evidence of direct inoculation with glanderous matter from a diseased horse with which the man had been working. The patient was thirty-six years of age; he was first indisposed on the 6th of August; was seen by one of the district dispensary physi-

[a] New Series, vol. vi. p. 469.

cians on the 16th; was admitted into the General Hospital on the 21st; and died on the 25th of the same month. Throughout he had many of the symptoms that marked the case I am about to relate: and however the various cases to which I have referred may have differed in some particulars, still they all had several general and similar features, and were alike fatal in their results.

I shall now briefly state the case of John Clarke, aged fifty-four years, who was admitted into one of my wards in the General Hospital, on the evening of the 24th of November, 1855, suffering from an abscess situated on the middle of the outer side of the right thigh. When I saw him, for the first time, on the morning of the 25th, he complained of general soreness over the body, but especially round the seat of the abscess, and about the middle of the left fore-arm. He seemed very depressed and greatly cut up, as I may express it; his tongue was foul; pulse 126, and feeble; bowels confined; and skin of a dusky jaundiced hue. On examination, I observed in the part of the thigh mentioned an oblong flattened swelling, without any morbid heat or discoloration, save at a small point in its centre, where there was a dark red pustule discharging a thin ichor, such as we see in an unhealthy phlegmon. On the left fore-arm a somewhat similar swelling, but without any pointing, was observed. On questioning him relative to his state of health for some time back, I found that about three weeks since he first felt indisposed, feeling weak and languid, without appetite, and troubled with frightful dreams; up to that time he had been well; he attributed his illness to cold caught from severe wettings, to which he had been lately exposed. On the 26th November I opened the abscess of thigh, and gave exit to about two ounces of very unhealthy pus. I learned that he had been delirious in the night, and had not slept. He complained of pains in all of his joints, and many other parts, especially of the neck and shoulders, with general *malaise*. I remarked at the time to the students in the ward, that his general aspect, the appearance of the abscess, and its discharge, the foul and tremulous tongue, with the weak and quick pulse, indicated either the effects of animal poison, or a very broken-down state of the system. I closely questioned if he had been working among diseased horses; he steadfastly maintained the negative.

Though I still had very grave doubts of the true cause of the disease, I then treated the case as one of rheumatism occurring in a system broken down by hardship, exposure, and drink, and prescribed accordingly a warm bath, and a

grain of opium every two hours, in the form of Dover's powder, along with a diet of milk, beef-tea, arrow-root, &c. Up to the 3rd of December this treatment was pursued, attended with a diminution of the pains, and a trifling improvement of the general aspect; on that day, however, I found that he had passed a very restless night, had been delirious, and was evidently much worse; he showed me his left knee and elbow, both of which were swollen, and very painful; these joints exhibited a dusky, erysipelatous hue, but did not present any appearance of pustules. I then ordered for him tonics,—the compound infusion of bark, with carbonate of ammonia, and continued the Dover's powder, three grains every three hours, with a grain of calomel. I also directed him to have four ounces of wine and two of whisky daily. On the 5th he seemed and expressed himself as feeling somewhat better again. During all the time in hospital, until this date, I may remark that he took nourishment pretty freely. On the morning of the 7th, however, I observed a very marked change for the worse: his voice had become hoarse and snuffling, the tremor of hands had increased, he was more restless, had diarrhœa, and profuse perspiration and loss of appetite. Upon the left knee and elbow, I observed several pustules in various stages of development, and on the left side of the nose, a large pustule.

By the next day, these several pustules had greatly increased in size, while others were observed on the limbs and body. He complained of his throat, and on examining it, I found it covered with foul ulcers. During all this period, the abscess of the thigh was poulticed, and continued to discharge the same unhealthy matter as at first, but the tumour of the fore-arm, which, at one time, gave signs of fluctuation, had disappeared. The pustules then formed rapidly; at first a small hard point, with a speck of matter or lymph in the centre, showed itself[a], then the base spread, and each pustule became of a dusky red hue, and was surrounded by a hard, whitish ring, with a rose-coloured areola. In the course of twelve hours the size of each was equal to the disc of a six-pence, was flattened, and had irregular edges; the cuticle over each was elevated by a dirty serous fluid which being soon discharged, the sores became covered with an uneven scab, fissured in many places, and of a chocolate colour. Of course, at this stage of the disease, there could no longer be any doubt as to its true nature; and strict inquiries made among the car-drivers on the stands gained information that the unfortunate man, Clarke, had been working

[a] The hard points had quite the feel of "farcy buds" in the horse.

for some time—months, I believe—with a horse known to be labouring under chronic glanders; and, moreover, that at least one other horse had been infected by this animal, and had died of the acute disease.

From the 8th till the 12th December the symptoms increased in severity, and pustules were rapidly appearing on almost every point of the body, and in every stage of development. For two days he took no nourishment, save the wine and whisky, and had constant low, muttering delirium; the breathing became very hurried and laborious, and he finally succumbed to the malady on the evening of the eighteenth day after admission to the hospital, about thirty days from the first exhibition of illness, and nine from the appearance of the inflammation of the areolar tissue around the joints. I did not make any post-mortem examination.

This case, as will be seen, presents several points of interest, to only one or two of which, however, I shall allude.

The first point of interest is the seeming long time that elapsed before the disease became fully developed, some three weeks from the earliest day of sickening: in this respect it differs materially from several of the cases on record, in which, as in Dr. Henry Graves' cases, for instance, the disease followed almost immediately upon the inoculation with the glander-matter. In the case before us, the disease at first seemed merely a febrile condition arising in an unhealthy system, and the result of exposure to wet and cold, along with the formation of a "cold" or chronic abscess; then we had several of the symptoms of absorption of pus from this abscess, producing, seemingly, the usual results; and next, suddenly the marked features of acute farcy supervening. During three weeks, or perhaps a much longer period, the poison must have been working its insidious and deadly course, by effecting mortal changes in the fluids of the body. The next point of interest is the fact, that while the right thigh was the seat of the primary abscess, the left side alone was attacked with pustules, until a day or two before death, when, as I have already stated, they began to appear over the entire superficies. This confinement of the eruption, at least at first, to one side of the body, is usually observed in acute farcy in horses, and, I believe, the left or "near" side is that most commonly affected. It will be observed, that I have not mentioned any discharge as having taken place from the nares in Clarke's case; none had appeared, but it is pretty certain that if he had lived a few days longer, the mucous surfaces would have been fully affected, and the discharge established, and, besides, that the pustules would have broken down into gangrenous sores.

With regard to the treatment of this dire complaint, I fear that little can be done: however, there can be no doubt that tonics, especially the preparations of iron, offer the most likely means, along with stimulants, of arresting the destructive action of the poison, or of supporting the patient until it had been eliminated from the system, on the same principle that these means are used in erysipelas, and in cases of animal poisons being received, as in dissecting wounds.

It is remarkable, that between the 27th of November and the 3rd of December, my patient actually improved! Did the Dover's powder, and the warm baths, with the nourishing diet, effect this? Was the abscess on the right thigh a part of the diseased state, or merely an accidental accompaniment? Did the poison of glanders only begin to work its course at the period of his relapse?

Art. XIV.—*Cases and Observations Illustrative of the Connexion between Certain Forms of Pneumonia and Renal Disease.* By Benjamin George M'Dowel, A.B., M.D., Physician to the Whitworth and Hardwicke Hospitals, &c. &c.

The object of the following communication is to direct attention to a combination of morbid conditions, which, as far as I know, has not hitherto been *specially* noticed, but which, it is conceived, may prove of some use in extending our knowledge of the etiology of certain diseases. I now allude to the frequent coexistence of certain suppurative inflammations with chronic renal disease, but more especially to the combination of the latter with the suppurative and gangrenous forms of pneumonia, of which a considerable number of cases have come under my observation within a comparatively short period.

This combination of morbid conditions has occurred too frequently to allow me to regard it as a mere coincidence; and I think I shall be able to furnish good reasons for adopting the opinion:—1. That when pneumonia occurs in connexion with renal disease, it has a remarkable tendency to assume the suppurative or gangrenous form; and 2. That we are to regard the morbid condition of the kidney as the predisposing cause of these very fatal terminations of a disease which otherwise terminates favourably in the vast majority of instances.

At a recent meeting of the Pathological Society (January 19, 1856), I exhibited a specimen of gangrenous pneumonia, in which a diseased condition of the kidneys likewise existed. The particulars of this case will be detailed further on (see

Case IX.); but the observations then made, and which have a direct reference to the subject under consideration, were as follows:—"Dr. M'Dowel particularly directed the attention of the Society to this combination of disease, and stated his belief that chronic renal disease had a great influence on the development of suppurative inflammations. This he had especially observed in pneumonia, as, for the last eighteen months, during which period he had paid particular attention to this subject, *he had not met with a fatal case of suppurative pneumonia in which renal disease was not also found to exist.* His opinion was, that pneumonia, in the great majority of instances, passes through certain regular phases, which naturally tend to a restoration of the healthy condition of the lung; but that when pneumonia occurred in a person in whom renal disease had pre-existed, the tendency of the disease then was to assume the suppurative, or the gangrenous form."

My object now is to adduce the evidence on which this opinion was founded.

Case I.—*Double Pneumonia. Purulent Infiltration of the Lungs. Bright's Disease of the Kidney. Death on the sixth day.*

Thomas Wood, a carman, thirty-two years of age, was admitted into the Hardwicke Hospital, under Dr. M'Dowel's care, August 5, 1853. Patient was a man of very intemperate habits. Three days before admission (Sunday) he got drunk, and was exposed all night to wind and rain. He returned home early on Monday, feeling chilled and ill; violent rigors followed, with cough and oppression of the breathing.

On admission (fourth day, Wednesday), the face was darkly flushed, the dyspnœa intense, and there was total prostration of strength. Respiration 44; pulse 130 in the minute; skin extremely hot; there was frequent cough, with thin, scanty, colourless expectoration; and pain on inspiration in the left side.

Double pneumonia was found to exist, the right lung being principally engaged; more than half of this lung gave the signs of solidification; over the lower portion of the left lung friction likewise existed, denoting the co-existence of pleuritis.

Fifth day. Right lung wholly solidified.

Respiration 52; pulse 140; raved incessantly all night; dyspnœa more urgent; vomiting; died on Thursday evening, sixth day of the disease.

Autopsy. Thoracic Viscera.—Double pneumonia, with pleuritis on the left side. The right lung was solidified through-

out, and infiltrated with dark-coloured pus; the tissue of the lung was very friable and non-crepitant. The left lung was solidified in patches, in all of which pus was diffused. The uninflamed portion of the lung was emphysematous. The pericardium was extremely adherent to the heart; in some places the adhesions consisted of bands half an inch long. The heart was enlarged and hypertrophied, weighing 16 oz. when separated from the pericardium. Its tissue was slightly softer than natural, but its valvular apparatus was perfectly healthy.

Abdominal Viscera.—The liver was large and pale. The spleen softened, but of natural size.

The Kidneys were extensively diseased; externally both were pale, smooth, and mottled. The tubular structure had nearly altogether disappeared, and white, soft, fatty-looking material occupied the greater bulk of the organ. The left was much diminished in size. The right weighed $5\frac{1}{2}$ oz., and the left $2\frac{1}{2}$ oz. only; in the latter a fibrinous clot of a brown colour lay in a small cavity, with the walls of which it had but a very slight connexion.—(*Pathological Register of the Whitworth and Hardwicke Hospitals*).

Case II.—*Pneumonia of Right Lung. Purulent Infiltration of the Lung. Bright's Disease of the Kidney. Death on the seventh day.*

Neal Wynne, aged 40, and, like the preceding, a man of intemperate habits, was admitted into the Hardwicke Hospital March 23, 1854. He was almost moribund at the time, and was reported to have been only five days ill. The pulse was rapid and extremely weak; face pale and shrunken; lips livid; breathing much hurried, but there was no complaint of dyspnœa; there was not much cough, and no expectoration. The lower half of the right lung was dull to percussion, and bronchophony and bronchial breathing were here intensely developed. Diffusible stimulants and wine were liberally given, and a blister was applied over the dull portion of lung.

24th. The patient had not slept, but had raved much. His countenance was exactly like that of a person in cholera,—there was the same sunken expression, the same blueness of the lips, the same hollowness about the eyes, whilst the nose looked sharp and pinched. The pulse was thready and rapid, and the surface cool; yet there was no complaint of any suffering, and the intelligence was wholly undisturbed. The physical signs were unaltered; 12 oz. of wine were ordered; and the diffusible stimulants were continued; but the patient con-

tinued to sink, and died that night, on the seventh day of the disease.

Autopsy. Thoracic Vicera.—There was grey hepatization of the lower lobe of the right lung, presenting the usual granite section. *Pus exuded on pressure.* This portion of the lung was friable, dense, and heavy. Above this there was red hepatization, whilst the apex of the lung was healthy. The pulmonary vessels were throughout gorged with dark blood. The left lung, inferiorly, was deeply congested.

Abdominal Viscera.—The chylopoietic viscera were perfectly healthy; but *the kidneys were extensively and symmetrically diseased.* The tubular portion, in all the central regions of both organs, was completely absorbed; whilst the cortex, which was much augmented in depth, presented that peculiar striated appearance which has been compared to the section of a parsnip. Dense fat, in unusual quantity, occupied the centre of both glands, which were slightly diminished in size.—(*Pathological Register of the Whitworth and Hardwicke Hospitals*).

Case III. — *Pneumonia of left Lung, passing into Purulent Infiltration. Bright's Disease of the Kidneys.*

Mary Byrne, aged 60, was admitted into the Hardwicke Hospital, No. 6 ward, October 26, 1854. The symptoms on admission were those of low fever. The vital powers were much depressed, the face was pale, and the breathing hurried, but no physical signs of any pulmonary complication could be detected. Next morning, however, dulness was found to exist over the lower half of the left lung; the breathing was already bronchial; no crepitus existed. A blister was applied, and wine and ammonia were prescribed.

During the next two days no change occurred; the signs of nervous depression and of vital exhaustion continued; the physical signs remained the same; the sputa were copious, thin, and slightly rusty; the bronchial effusion now became excessive, and threatened asphyxia. Stimulant emetics were given, and with some benefit, which proved, however, but temporary, for the tubes again and again filled up, and death took place on the 30th.

Autopsy. Thoracic Viscera.—The lower lobe of the left lung alone was diseased; it was found solid, friable, and *infiltrated with pus;* the interlobular fissure was the limit of the disease, for the upper lobe was perfectly healthy. The heart was free from disease. Abdominal viscera healthy, with the exception of the *kidneys, which were much diseased,* they were

much enlarged, and their outer surface was pale and mottled, and studded over with small cysts; the substance of these organs was unnaturally friable; the pyramids were in a great measure absorbed, and the cortical portion was manifestly altered in structure. The os uteri was ulcerated, and incipient ovarian disease existed.—(*Pathological Register of the Whitworth and Hardwicke Hospitals.*)

The following case recently occurred in one of Dr. Corrigan's wards, who has kindly permitted me to record it.

Case IV.—*Diffused Suppuration of the Left Lung. Sacculated Kidney. Calculus in the Bladder.*

William Holden was admitted December 16, 1855. On admission this patient was in a state of almost complete collapse; the pulse was extremely rapid and feeble; he made no complaint of pain, and had little or no cough. Though stimulants were freely administered, there was no attempt at reaction, and he died on the third day after admission.

Autopsy.—Diffused suppuration of the left lung, a section of which presented the usual morbid appearance which belongs to that condition; the right kidney consisted of a number of distinct cavities, corresponding to the original "pyramids," which contained pus and urine; the ureter was greatly dilated: and, tracing up these changes to their source, a mulberry calculus, as large as a walnut, was found in the bladder. The left kidney was enlarged and congested.

Case V.—*Pneumonia of the Right Lung, terminating in circumscribed Abscess. Death by Hectic. Bright's Disease of the Kidney.*

James Byrne, aged 47, a labourer, was admitted into the Hardwicke Hospital, No. 7 ward, October 27, 1854; ill eight days. After exposure to cold, had a rigor, followed by fever, great loss of strength, cough, and pain in the side. On admission there was solidification of the lower half of the right lung; typhoid fever was present; there were remarkable prostration of strength, a swollen look, dull flushing of the cheeks, and a very rapid small pulse; there was much cough, with copious expectoration. Bark, ammonia, and wine were prescribed.

November 1. All fever had gone, but cough, with copious expectoration, continued; the crepitus of resolution was well marked.

7th. Return of fever; pulse 130; expectoration purulent and copious; emaciation; blowing respiration, with gurgling crepitus, existed over the infraspinal fossa. From these signs, with the purulent nature of the expectoration, the occurrence of abscess was diagnosed.

11th. A pint and a half of pus is daily expectorated; signs of abscess continue; pulse 120.

14th. Diarrhœa.

16th. Diarrhœa checked; the purulent expectoration amounts to two pints daily, but is not fetid.

30th. Extreme emaciation; great debility; occasional diarrhœa; expectoration lessened. Death, from exhaustion, December 4. The duration of the disease was forty-seven days.

The post-mortem appearances may be thus briefly detailed:—The right lung was throughout solidified, but posteriorly was a large abscess corresponding to the scapular region, which contained much fetid grumous pus. The kidneys, as in all the preceding cases, were extensively diseased.—(*Pathological Register of the Whitworth and Hardwicke Hospitals.*)

Case VI.—*Typhoid Pneumonia of Right Lung. Suppuration of the Lung. Bright's Disease of the Kidney. Death on the sixth day.*

Mary Ball, aged 40, was admitted August 17, 1853. Her illness commenced three days previously with pain in the side and symptoms of fever. On admission, the whole of the upper lobe of the right lung was solidified; tubular breathing coexisted with crepitus; the sputa were rusty; cough frequent; the respirations were 40, and abdominal; pulse 108; tongue coated with brown fur.

18th. Expectoration copious and frothy, but tinged of a rusty colour. Calomel and opium were ordered, and six ounces of wine.

19th. Expectoration more copious, and of an olive-green colour; pulse 112. Increase of dulness; entire of right lung now solidified, but coarse crepitation continues. Blister to the chest; a mixture of carbonate of ammonia was ordered, and the wine to be continued.

10 P. M. A sudden change for the worse was observed to have taken place. Effusion into the tubes took place with great rapidity, and the patient became no longer able to expectorate; the pulse rose to 150, and the respiration became rapid in proportion. Death took place a few hours afterwards: sixth day of the disease.

Autopsy.—The right lung was wholly solidified, and pus was universally diffused throughout its substance. There was degeneration of the kidneys.

The last case I shall refer to is one which has occurred since the report of those which precede it was drawn out.

Case VII.—*Pneumonia of the Left Lung, terminating in diffused Suppuration. Jaundice. Typhoid Fever. Death on the seventh day. Diseased condition of the Kidneys.*

Denis Carty, aged 52, a labourer, of full muscular development, and not intemperate, was admitted into the Hardwicke Hospital Wednesday, March 19, 1856. He was then six days ill, but had not applied for any medical advice. There were at this time complete dulness of the left side, frequent cough, with rusty expectoration. He complained of pain in the right side over the lower ribs; but said that, for the first few days, he had severe pain in the left side. The other symptoms were,—jaundice, considerable tenderness over the region of the liver, with much vascular excitement, and general pyrexia. The pulse was 90, full and bounding. Treatment:—six leeches to the region of the liver; calomel and opium at short intervals.

Thursday (seventh day), a great change was observed in the symptoms since yesterday; the signs of vascular excitement no longer existed, and the typhoid condition was fully developed. The pulse was 130, and compressible; the skin cool; face of a dusky colour; lips bluish; whilst there was a total absence of any sense of suffering, and a tendency to stupor, which denoted an alarming amount of nervous depression. Effusion was taking place into the bronchi, and there were constant, but unavailing, efforts to clear out the tubes. There were the usual signs of pneumonic consolidation on the left side.

Stimulants were freely given; turpentine was also prescribed; at first one dose of half an ounce was given, to be followed by doses of one drachm every three hours. Flying blisters to be applied to the chest. The patient never rallied, but continued to sink rapidly, and died at midnight.

From the similarity of many of the symptoms to those in the cases which I have already described, I was led to express the opinion, that suppuration of the lung and renal disease would be found to exist.

Autopsy, twelve hours after death.—The left lung was solidified and *infiltrated with pus* from apex to base, the amount of pus increasing, however, from above downwards,

denoting the progress of the disease in the opposite direction. The lower lobe was exactly like a sponge soaked in pus. The right lung was healthy. The difference in weight indicated to what an extent purulent matter had taken the place of air in the left lung; for whilst the weight of the right or healthy lung was 2 lbs. 3 oz., that of the left, or solidified lung, was a little more than 5 lbs. Recent lymph was effused on the pleural surface, and 8 or 10 oz. of turbid fluid existed in the cavity of the pleura. The heart was healthy; the liver was enlarged, congested, and myristicated. The kidneys were much diseased; the left was much increased in size and weight; its weight was $7\frac{1}{2}$ oz., whilst that of the right was $5\frac{1}{4}$ oz.; both glands were pale and mottled externally; whilst internally there was a great increase of cortical portion, which, in the centre, extended all the way in, as far as the pelvis, no trace being left in this region of the central pyramids.

If we exclude Case v., which terminated in circumscribed pneumonic abscess, and in which life was prolonged for forty-seven days, the cases now detailed are all very similar. In them we see pneumonia running a very rapid course, terminating fatally in from six to nine days, and death the result of a profound impression on the system generally, rather than of asphyxia; for, as a general rule in these cases, dyspnœa was not even complained of; as if the nervous influence was so much lowered, or overpowered, that animal sensibility had become almost extinct. The condition of the kidneys was likewise very similar in all, being large, soft, and pale, and the seat of some adventitious deposit, which, more or less extensively, replaced the normal structure. In one case only was a different condition found to exist (Case iv.), and in it the kidney was sacculated or multilocular, and contained much pus. As it is usually met with, pneumonia is a disease which naturally tends to recovery, and which I can confidently state requires no heroic treatment to subdue it; but when it occurs in connexion with an unsound condition of the kidneys (being *dependent*, it may be, on such condition), we are presented with a totally different form of disease, and one which too often will terminate fatally, notwithstanding the best directed treatment. And it may be deserving of future investigation to inquire, whether the danger which so notoriously attends "typhoid pneumonia," of which disease each one of the preceding cases, except Case iv., might be taken as a type, may not be found to depend upon the fact, that this form of disease is developed as the result of some constitutional fault, which, when traced to its source, may be found to originate in renal degeneration

Direct evidence, I think, has now been furnished of the influence which renal disease exercises on the course, duration, and result of pneumonic inflammation, and especially of the tendency of pneumonia, under such circumstances, to pass into suppuration. On the other hand, if, in fatal cases of pneumonia, in which suppuration had not occurred, the kidneys were found healthy, we would have an additional argument in support of this opinion; but as pneumonia rarely proves fatal unless suppuration has first occurred, this evidence is more difficult to be procured[a]; it is furnished, however, by the following case.

Case VIII.—*Pleuro-pneumonia. Death from suffocative Catarrh on the thirteenth day. No Pus in the Lung. Kidneys healthy.*

John M'Kenna, aged 60, was admitted into the Hardwicke Hospital, under Dr. M'Dowel's care, June 5, 1851. The day before, he was attacked with shiverings, headach, and pain in his left side, accompanied by such lassitude that, to use his own expression, "he was knocked down by it at once;" although he was so short a time ill, he was extremely weak. The chest was carefully examined, but only some bronchitis on the left side could be detected. Pulse 100, and compressible. He was ordered camphor mixture, with aromatic spirit of ammonia. His condition remained the same until the 8th, when he became much worse; he raved, and had become much weaker. Pulse 88, weak and intermittent. The lower half of the left lung was now found to be solidified; the lower half of that side of the chest was dull to percussion, and over the same extent the vascular murmur was replaced by tubular breathing. Bronchitis existed to a considerable extent on the right side; expectoration scanty, viscid, and lemon-coloured. To be dry-cupped extensively; a blister to be subsequently applied over the dull side; blue pill, carbonate of ammonia, and ipecacuanha in pill; wine, 8 oz.

12th. Is much improved. Pulse 56, and regular; crepitus reduced, and diminution of bronchial breathing on the left side.

Continued steadily improving until the 15th, when it was found that alarming symptoms had become suddenly developed. His lips were livid; there were extreme dyspnœa, and a cold, damp, condition of the surface; effusion had taken place into the tubes, and a loud mucous rattle was universally present.

[a] On referring to Dr. Hudson's admirable paper on Typhoid Pneumonia, I find that in all the fatal cases recorded by him, suppuration of the lung existed. See First Series of this Journal, vol. vii.

A large blister was applied between the shoulders, a mustard emetic administered, whilst wine was given liberally.

16th. No improvement; no emetic effect had been produced; whiskey and ammonia were given freely, but the patient gradually sank, and died the same night, being the thirteenth day of the disease.

Autopsy.—Right lung largely distended with air, and œdematous; much frothy serum exuding when incisions were made; bronchial tubes on both sides filled with a similar fluid; recent lymph effused on left pleural surfaces generally, but more especially in the region of the diaphragm. Lower lobe of the left lung completely hepatized; it sank in water, and was friable, but did not contain any pus. The heart was healthy; the kidneys were congested, but healthy.

The termination of pneumonia in gangrene may likewise be found associated with renal disease. In four instances, which have very recently come under my observation, this association of morbid conditions existed; but how far this combination of disease is to be regarded as the general rule, or its exception, must be determined by a more extended series of observations.

Case IX.—*Pneumonia of the Left Lung, terminating in Gangrene. Fatal in seventeen days. Both Kidneys extensively diseased.*

Eliza Champion, aged 28, was admitted into the Hardwicke Hospital, under Dr. M'Dowel's care, December 31, 1855. On Saturday, the 22nd, had a severe rigor, followed, after three days, by cough and fetid expectoration. Two days after her admission she miscarried of a fœtus at the seventh month. On the day following, January 2nd, she was much prostrated, weak, and sunk. Pulse rapid and small; expectoration copious, dark-coloured, thin, and fetid; bright circumscribed flush on each cheek; pupils contracted; cough very troublesome. Respirations 56; pulse 136; the breath was fetid. On examination amphoric blowing was found to exist over the greater portion of the back of the left lung; metallic resonance of the voice, and gurgling, were likewise evident; but there was no splash heard on succussion; whilst abnormal tympany, and the signs of excentric displacement, were absent. The diagnosis of a large gangrenous cavity in the left lung was not therefore difficult.

She was ordered eight ounces of wine daily, and an ounce of a mixture containing six drachms of syrup of bark, three

drachms of solution of chloride of soda, one drachm of tincture of opium, and six ounces and a half of water, to be taken every fourth hour. Treatment did not seem to influence the progress of the disease; the expectoration became greater in quantity, and more and more offensive; soon it gurgled up from the throat with little effort on the part of the patient; presently, shreds of a stringy substance, like fragments of lung, were coughed up, and from this time the fetor became almost insufferable, yet the strength did not seem to give way much until the 8th, when diffused inflammation of the left parotid region appeared; then came rapid sinking, and death ensued on the following morning.

Autopsy.—The left lung was found in a state of absolute putrefaction; what remained of it hung in loose shreds, revealing a dissection of the tubes and vessels; recent lymph, contrasting by its white colour with the black mass beneath, lay in thick patches on the pleural surface. The *right lung*, which was nowhere solidified, was found studded with several gangrenous vesicles, from which, when they were cut into, fetid gas and grayish-coloured pus escaped whilst the substance of the lung beneath was found deeply disorganized. The *kidneys* were symmetrically and extensively diseased; a section showed a great increase in the depth of the cortex, an adventitious deposit, absorption of the central cones, and an excessive deposition of fat towards the pelvis.

The order of the morbid changes in this case was, probably, the following: first, pleuro-pneumonia of the left lung, which rapidly passed into gangrene (owing, as I believe, to the existence of extensive renal disease); secondly, the gases thus generated were absorbed, giving rise to a putrescent condition of the blood; as the result of which we had, thirdly, cellulitis of the parotid region, and gangrene in isolated patches (not preceded by inflammatory consolidation) of the right lung.

Case X.—My friend Dr. Hughes was present at the post mortem examination in the preceding case, and carefully examined along with me the condition of the kidneys: he mentioned that a very similar case, which had been under his care in Jervis-street Hospital, had died that morning, and kindly promised to investigate into the state of the kidneys in making an examination of the body. The result was, that the kidneys were found similarly diseased. The gangrenous lung and the kidneys were made the subject of an interesting communi-

cation to the Pathological Society (January 12), and the details of the case will appear in the Transactions of the Society[a].

Case XI. was a similar case, which was brought before the Pathological Society by Dr. Corrigan at a subsequent meeting. There were gangrenous pneumonia and a diseased condition of the kidneys[b].

Case XII.—*Gangrenous Pneumonia, and Disease of the Kidneys.*

This case occurred within the last few days. The patient was likewse under the care of my colleague, Dr. Corrigan, who kindly placed the notes of the case (which were taken by Mr. Barrington, one of our clinical clerks), and the results of the post-mortem examination, at my disposal.

James Carroll, aged 60, a stone-mason, was admitted into the Hardwicke Hospital under the care of Dr. Corrigan, March 14, 1856. The patient had been a dissipated and intemperate man. For three weeks before his admission he had been ailing, but was able to be at work until a week previously, when he was attacked with rigors and cough; his breath soon became offensive, and the fetor, he said, was observed by persons even at a distance from him; he had frequent cough, and spat up large quantities of a brownish-coloured matter, which had a most fetid odour. At the time of his admission the man was evidently in a dying state. A coarse mucous rattle was loudly heard over the back of the left lung, which was dull to percussion. His lips were blue, extremities cold, and pulse so feeble as scarcely to be felt. He died thirty hours afterwards.

Post-mortem Examination.—The left lung was solidified from apex to base; superiorly it exhibited the appearance of gray hepatization, whilst inferiorly it was in a state of gangrene. The right lung was congested and œdematous, the kidneys were manifestly diseased, they were soft and enlarged, pale and mottled externally, and internally presented a confused marbled appearance, the distinction between cortical and medullary portions being, for the most part, entirely obliterated.

These cases (12 in number) constitute the evidence in support of the opinion, already several times expressed, that be-

[a] Whilst these sheets were going through the press, this case has been published in detail by Dr. Hughes, in the Dublin Hospital Gazette (No. iv., April 1st, 1856.) Its resemblance to Case ix. will be at once apparent.

[b] This case will appear in the Transactions of the Pathological Society.

tween pneumonia in its worst and most fatal forms, and structural disease of the kidneys, some definite relationship exists. If this opinion be adopted, and if we regard the combination of diseases illustrated by these cases, as representing parts in one great chain of pathological sequences, then the order of these sequences is easily traced out. It is no new doctrine that a diseased condition of the kidneys cannot long exist without an impairment, more or less serious, of the great function of excretion. A morbid condition of the blood is established as the result of imperfect depuration; hence arise certain secondary affections, of which (in connexion with diseased kidneys) serous inflammations and affections of the brain and heart have attracted the most attention. But it is probable that the secondary affections which depend on organic renal disease will vary according to the stage of the disease, or according to the peculiar form under which it is manifested.

"Bright's disease," we now know, is a generic term which includes several dissimilar diseased conditions of the kidney; and, whilst inflammations of the serous membranes may be more frequently associated with one particular form of disease—viz., the small, contracted "granular" kidney—pneumonia in its worst forms (gangrenous or suppurative) may be more peculiarly the secondary result of the large, smooth, pale kidney, which was so uniformly found to coexist in the cases already detailed.

In these observations my object has been to avoid theorizing, and to furnish a simple statement of clinical facts; and I am perfectly ready to adopt or reject the opinions here advanced, as more extended observation may either confirm or refute them.

At another time I hope to be able to furnish some evidence of the influence which renal disease exercises on the development of pyemia in general; and, in fine, will very briefly state the conclusions which I think may naturally be deduced from the cases given in the preceding pages:—

1. That in fatal cases of pneumonia renal disease is very frequently found to exist.

2. That where such a combination of disease exists, suppuration of the lung will be very constantly met with.

3. That a similar morbid condition of the kidney is often found in gangrene of the lung.

4. Or, it may be conversely stated, that where pneumonia supervenes in a person, in whom renal disease has previously existed, it is very apt to assume the suppurative or the gangrenous form.

5. That pneumonia, when it occurs in such fatal forms and under such circumstances, is probably one of the "secondary affections" of "Bright's disease."

It has not been my intention to convey the idea that pneumonia has never been enumerated by authors as one of the complications of "Bright's disease;" though some writers are silent on the subject, others have distinctly noticed it, especially Rayer[a]. But it will be found that the pneumonia described in this paper is of a different nature from that noticed by Rayer. The pneumonia which he describes as secondary to "albuminous nephritis" comes on at a late period, and after the dropsy and other symptoms of the renal disease have been fully pronounced; and hence he observes:—"The symptoms of such pneumonias are more or less marked by those of dropsy, or by the symptoms of cardiac disease, or other concomitant pulmonary lesions." In none of the cases above described was renal disease suspected to exist; all were apparently in the enjoyment of good health up to the moment of the sudden development of the pulmonary affection. Neither do the cases of pneumonia, alluded to by Rayer and other authors (Bright, Gregory, Christison), resemble, in their anatomical characters, those detailed in the preceding paper. Suppuration and gangrene, either of which was found in all these instances, were not observed by any of these authors. One of Rayer's cases, however, is an exception to this statement—Case xxxviii.—in which external suppuration of the lung was found to exist. In the other two (for only three cases are given by Rayer in illustration) red hepatization and œdema, with engorgement of the lungs, were the principal morbid changes.

Art. XV.—*On the Epidemic Ophthalmia of the Irish Workhouses.* By Frederick Kirkpatrick, M.B., F.R.C.S.I., Medical Officer of the North Dublin Union.

Of late years the attention of all persons interested in the working of the Irish Poor Law has been anxiously directed to the subject of epidemic ophthalmia, in consequence of the most alarming and frequent outbreaks of the malady in many of the workhouses of Ireland amongst the children of both sexes, many of whom were, in consequence, either totally blinded, or received serious and permanent injury to sight.

[a] Traité des Maladies des Reins, tome ii. p. 291.

The subject is one of great importance, not only as involving the happiness and hopes in life of the unfortunate persons obliged to seek the shelter of these establishments, but as affecting also the interests of the public at large, who are taxed for their maintenance, and who must continue to support all those who, from loss of vision, are incapacitated from obtaining education, or acquiring the knowledge of any trade by means of which they could hereafter support themselves.

The history of ophthalmia in the workhouses of Ireland may be said to commence about the year 1846; previous to that date the malady does not seem to have prevailed sufficiently to have attracted official notice; from that period, however, it has been more or less prevalent, until the year 1849, when its increase in some of the country workhouses became so alarming, that the subject engaged the earnest attention of the Poor Law Commissioners, and Dr. Jacob was sent to the Athlone Union to inquire into the causes of the epidemic, and to consult with the medical officers as to the best means of arresting its progress. In the year following Mr. Wilde was sent on a similar mission to Tipperary. Both of these gentlemen addressed interesting Reports to the Poor Law Commissioners on the subject, which were published in the fourth volume of their Annual Reports; and Dr. Wilde further addressed a letter to the medical attendants of the Tipperary Union, which is full of information upon the subject, and will amply repay perusal. Adopting the advice embodied in these Reports, the Commissioners addressed a circular to their Poor Law Inspectors, pointing out the proper sanitary measures to be enforced to arrest its further progress, and calling upon the Guardians to provide greater extent of accommodation, either near the workhouse, or in the country, where the patients might have pure air and exercise in green fields, or under the shade of trees, as Mr. Wilde advised.

The circular particularly alludes to crowding as a principal cause of the disorder, and urges the necessity of attention to the suggestions of the medical officers, as to the steps to be taken to arrest its spread amongst the inmates, pointing out that no economy can be more falsely conceived than that which is based on an unwillingness to incur expense in arresting the progress of such a disease as ophthalmia.

In some of the workhouses beneficial results attended these energetic steps; but in the unions at large the disease extended its ravages, as may be gathered from the following Table, which is taken from the Annual Reports of the Poor Law Commissioners for the five years ending in 1853:—

SUMMARY *of the Number of Cases treated in the Workhouses of Ireland during Five Years, ending December,* 1853.

Years.	Total Number of Inmates.	Cases of Ophthalmia.	Persons above Fifteen Years of Age.		Children under Fifteen Years of Age.		Total.	Duration of Disease.		Result.									Total.
			Males.	Females.	Males.	Females.		Average Duration of Disease.	Average Period in Hospital.	Cured.	Sight partially injured.	One Eye lost.	Both Eyes lost.	Died from Effects of Disease.	Died from other Causes while labouring under Disease of the Eyes.	Discharged from Workhouse while labouring under Disease of the Eyes.	Under Treatment.	No Record of Result.	
								Days.	Days.										
1849	932,284	13,812	1311	2096	4,784	4,801	13,812	40	33	12,233	189	114	37	2	83	164	63	927	13,812
1850	805,702	27,200	2280	4050	9,543	11,327	27,200	42	29	23,409	506	202	80	..	107	242	1,443	1,211	27,200
1851	707,443	45,947	3670	6821	14,252	18,370	45,947	30	29	40,684	754	656	263	1	169	315	1,197	1,908	45,947
1852	504,864	31,876	3242	5804	10,160	10,899	31,876	36	33	29,605	476	298	137	1	50	154	1,001	154	31,876
1853	396,436	16,013	1594	3660	4,614	6,009	16,013	32	31	14,487	402	93	61	..	58	211	652	49	16,013
Total,	3,346,729	134,848	12,097	22,431	43,353	51,406	134,848			120,418	2,327	1,363	578	4	467	1,086	4,356	4,249	134,848

There is something startling in the facts disclosed by this Return, which declares that, in the short space of five years, 134,848 of the inmates of the union workhouses, principally from amongst the class of children, have had purulent ophthalmia; and that 4268 have been either totally deprived of vision, or have suffered serious injury to sight.

The calamity to the sufferers is so great, and holds forth to the country such a prospect of continued taxation for their support, that the writer believes the subject to be one demanding the fullest inquiry, with a view of ascertaining what were the causes that produced this destructive disease, and how they are to be guarded against for the future.

For years past the prevalence of this malady has engaged the attention of the Poor Law Commissioners, and they have demanded from every union in the kingdom a separate return of the number of cases occurring in each year; from the aggregate of these returns the above Table is constructed; but, extensive as it appears, it is much to be feared that it does not disclose the full amount of mischief to sight that has happened, inasmuch as in 4249 cases no record of the result is given; and in 5442 cases, that were either under treatment when the return was made, or had been discharged while labouring under the disease, the event is also not mentioned. Moreover, from the well-known tendency in this disorder to relapse, many of those reported cured may be again attacked by the disease in its secondary form, and many others may suffer in years hence from the effects of that chronic condition of the lining membrane of the eyelids,—granular lids,—which so frequently causes imperfect vision, or produces complete blindness after a long period. Although there are records of ophthalmia prevailing in an epidemic form in large charter-schools, also in gaols, and amongst the Irish poor in their crowded cabins, before the experiment of collecting them into workhouses was entered upon, yet we have not met an account that tells of its spreading at any period in this country to an extent at all corresponding to this recent outbreak amongst the children in the Irish workhouses.

Mr. Wilde states, in his Report on the subject, that he believes the disease which he investigated at Tipperary was a modification of the Egyptian ophthalmia which he saw on a large scale at Cairo, and which prevailed to such an extent amongst the troops of the British army at the time of the war in Egypt, and subsequent to their return from that country. The prevalence of the affection at this time was accounted for by writers in various ways, but all agree that the crowding of

the men into too limited a space was a principal agent and cause in its production. To the present day our troops suffer occasionally from the disease, particularly when they are stationed in India and other hot countries; but we believe that it now seldom prevails amongst them to any serious extent at home, and we doubt not that this immunity is owing entirely to their improved sanitary condition, and to the fact that soldiers are not now allowed to be densely congregated in ill-ventilated dormitories, but strict rules exist, and are enforced, as to the amount of space to be allowed to each man. As far back as the year 1820 (and even earlier), we find medical authorities in the army ascribing disease and mortality amongst troops to the want of proper space in their dormitories; and Hennen lays down as a rule, that 800 cubic feet of air should be allowed for each soldier. I believe, however, that military authorities were slow to avail themselves of this good advice; but the reform has been at last effected, and the instructions for barrack management now direct that at least 500 cubic feet of air should be allowed to each soldier.

I have been also informed, that in the directions issued to the medical inspectors of the army during the present war, with respect to the formation of their hospitals abroad, it was ordered that, as far as possible, 1000 cubic feet of space should be provided for each patient.

The same principle, too, has, of late years, been fully recognised by the Government in the construction of their new prisons, as may be seen in the Mountjoy Convict Depôt on the North Circular-road, in this city, where each prisoner is confined in a cell which measures 900 cubic feet, and is, moreover, supplied with an admirable provision for insuring a constant supply and circulation of air.

It becomes interesting now to investigate into the circumstances of the workhouse inmate, and to see how he fares in this respect; and on the threshold of the inquiry we find that the law does not interfere in the matter, and that a minimum standard of space for each individual has never been fixed in the rules laid down for the instruction of Poor Law Guardians, but the matter is left to their own discretion; and the result is, that we find crowding, and its attendant evils (disease and mortality), alluded to early in the history of the Irish Poor Law. In the year 1847 the alarming spead of fever and dysentery in the workhouses is referred by the Poor Law Commissioners to their then over-crowded condition, and in their Report for that year the subject is forcibly brought under the notice of the guardians, who are warned and advised not to run the risk of

creating a large mortality by pestilence, which they state infallibly happens, if guardians, possessing limited workhouse accommodation, and unwilling to incur the expense of providing additional room, persist in admitting applicant after applicant, long after the limit of sanitary safety has been reached.

In the same Report the direct responsibility is placed on the medical officers of advising the guardians as to the limit to which their admissions can be extended without danger. In the years of general distress which followed this period, it was, no doubt, impossible that the instructions thus conveyed by the Poor Law Commissioners could be attended to or carried out, and there were few, if any, of the workhouses in Ireland that were not made to contain a number of inmates far beyond their so-called sanitary limits; and, as the direct consequence, contagious disorders prevailed largely, producing great mortality amongst the inmates, and carrying off many of the paid officers. In addition, particularly during the summer season of each year, purulent ophthalmia prevailed amongst the children; it does not appear, however, to have spread much amongst the adults; and the aged and infirm remained entirely free from its effects, although apparently all classes were placed under equal disaadvantages, in a sanitary point of view. This circumstance may receive some explanation from the fact, that the former, namely the children, have been always, and are still, placed several in each bed, and thus crowding can be carried to a greater extent with them than in any other class; besides, they are exposed to the influence of impure air during the day also, being congregated in close school-rooms.

An inquiry into the subject of the amount of space (estimating it by cubic feet), necessary for the preservation of health amongst workhouse inmates, would be not only interesting, but most important, with a view of arriving at some fixed conclusions on the subject. I earnestly invite the attention of the medical officers of the Irish workhouses to the subject, and respectfully solicit them to co-operate in having as much light as possible thrown upon it, and such information laid before the Guardians and Commissioners as may lead to this most desirable result, namely, the establishment of a fixed standard, below which the breathing space of each individual should never be reduced.

I have reason to know that in some of those unions, where the disease assumed a very destructive form, the crowding had been carried to an extent scarcely credible. Mr. Wilde states, in his Report on Ophthalmia, that in Tipperary the boys were lodged in thatched apartments, 61 feet long, 15 wide, and about

12 high; that he found 80 boys in each, and was informed that formerly they were made to contain 125; this would give a space of only 87 cubic feet to each boy. He states in the same Report, that the girls were crowded to an extent that can scarcely be credited.

I am quite satisfied that no Board of Guardians would knowingly consign a number of their fellow-creatures to such a position as these children were found in, if they knew the real danger they were exposing them to by so congregating them; and I am well aware that over-crowding to a fearful extent may occur without their knowledge or intention. Admission boards see more of the sufferings of those who are outside the workhouse, and who are earnestly pressing to be received within it, and thus, week after week, they continue to swell their number of inmates, the space for the new-comers being made either by laying down additional beds, or placing a greater number of patients in each bed, which is the usual course pursued in the case of children. In this manner the workhouses have become frequently much over-crowded, notwithstanding the earnest remonstrances of the officers, and the inmates are constantly attacked by those various disorders which are the inevitable results of such crowding, namely, tuberculous degeneration amongst infants; scrofula, purulent ophthalmia, and various epidemics amongst the children; and, amongst the elder people, diarrhœa, dysentery, fever, and scurvy.

At the North Union the female children (numbering about 450) are kept in dormitories which are unusually well circumstanced, with regard to situation, light, and ventilation; but at periods of great pressure upon the establishment a very crowded state of those wards has occurred, so that the space for each child has been reduced as low as 170 cubic feet; this was the condition (with regard to limitation of space), when purulent ophthalmia appeared amongst them, in a severe form, in 1853, and also during last summer. At the Glasnevin sheds, where the boys are kept, the disease, during the same periods, was very unmanageable. These buildings are, in many respects, objectionable in a sanitary point of view, and crowding was carried in them to an extent far greater than had been permitted amongst the girls at the central house, the cubic space having been curtailed to 145 feet for each boy, when the disorder in its worst form invaded them. In both establishments the malady was checked when the affected cases were promptly separated, and when the crowding in the general dormitories was diminished. This happened particularly at the North Union, where the Board opened two fine airy wards for the reception

of the affected cases. In these wards 500 cubic feet were permitted for each patient, and under these circumstances the disease proved at once amenable to treatment.

The necessity of having ample space provided for each patient is so fully admitted by the physicians of our Dublin hospitals, that the system of increasing the accommodation by introducing additional beds into wards is never permitted, under any circumstances, however pressing. In all the well-regulated fever hospitals of this city 900 cubic feet, and upwards, are provided for each patient; and, in many of the London hospitals a still larger space is allowed; but I believe that in the workhouses of London the system of over-crowding has been carried to as great an extent as it ever has been in this city; thus we find the English Poor Law Commissioners, in their Report for 1847, mentioning 216 cubic feet as the minimum space to be allotted to each inmate in their district asylums, a standard manifestly insufficient for any asylum, even for such a one as the Report alludes to, where the inmates only remain during the night. There can be no question that where wards are only inhabited during the night, and where the beds are all turned up each day, and complete ventilation can be attended to, far less space will be sufficient than in those where the patients remain both night and day. Still, it is manifest that, under the most favourable circumstances, the above standard is altogether insufficient.

In the wards for adult patients at the North Dublin Union, where most of them are confined to bed, the space for each individual ranges from 400 to 500 cubic feet; and here it may be remarked, that if the spaces allotted for the beds be 3 feet wide, by 10 in length, as long as patients are placed only one in each, their cubic space can never be reduced below 300 feet, supposing the ward to be of the moderate altitude of 10 feet; and I doubt not that to this circumstance may, in a great measure, be attributed the comparative freedom from bad epidemic disease observed amongst the male patients of the North Union, and in particular the total absence of purulent ophthalmia, which has so frequently broken out in the dormitories of the female children, owing entirely, as I believe, to the fact of too many being placed in each bed. Feeling assured that the overcrowding of the children in the workhouses of Ireland has been the sole cause of the prevalence of this disease amongst them, and, moreover, fully believing that it will never invade, in a serious form, any institution where sufficient space is allowed, I have dwelt at greater length upon the subject than I first intended. And I am the more encouraged to press the

inquiry, at the present time, as the great reduction that has taken place in the population of the Irish workhouses, during the last five years, must afford an opportunity to guardians for giving a fair trial to the mode of prevention, which an extended experience in the management of this disease warrants me in recommending, namely, that in the event of a threatened outbreak of ophthalmia, the children should be immediately placed in single beds, and in wards where at least 500 cubic feet of air could be allotted to each. To many readers this space may seem insufficient, but as I have found that, in several severe epidemics of ophthalmia at the North Union, the disease was speedily arrested when the breathing space of those attacked with it was enlarged to this standard, I feel confident that, in a short time, it would be entirely eradicated from the Irish workhouses, if the above proportion was at all times allowed to their inmates.

The purulent ophthalmia of workhouses does not, in general, break out in the sudden and violent manner in which the Egyptian disease is described by authors as having made its appearance. On the contrary, cases of a mild form, presenting the symptoms of simple catarrhal ophthalmia, occur often for weeks before the outbreak of the more alarming malady, and thus time is permitted for the adoption of proper preventive measures. These first warning cases suffer no pain or intolerance of light, and there is little to attract notice beyond slight vascularity and watering of the eye, with some mucous discharge. The simplest treatment is then sufficient to check the symptoms, particularly when the patients are removed from the crowded dormitory, where they had been attacked, to a well-circumstanced hospital ward. After a time, cases, in some degree more severe, begin to present themselves, and then suddenly the formidable disease makes its invasion, and if proper preventive measures are not promptly enforced, the cases multiply with alarming rapidity; and when, through want of hospital accommodation, they are treated in the crowded dormitory where the disease originated, the extension of the disease becomes almost universal.

The fresh cases, in general, are observed to occur during the night, and on the following day the disease is found to have already made considerable advance.

Its progress and symptoms may be thus described:—A thick purulent discharge is early formed, which soon becomes abundant. The effusion into the areolar tissue of the lids proceeds so rapidly, that in a few hours the eye will be closed from our

view, and the upper lid so much swollen, that we cannot raise it to inspect the eye, without difficulty and the production of considerable pain.

In all the severe cases we remark, that the interior of the upper lid is of a pale, pinkish-yellow colour, and smooth surface, with very little of a vascular appearance. If we scarify the surface, neither blood nor serum flows, and we find that we have divided a yellow lymphy structure of rather firm consistence. This peculiar appearance of the upper lid I consider the distinctive mark of the peculiar form of ophthalmia under consideration, and I doubt not that this description will be recognised by all those who have watched the deplorable progress of the disease in the Irish workhouses. As the case advances, the upper lid becomes very considerably swollen, and presents a bright red colour, globular shape, and glossy surface. Its tarsal edge, instead of forming the equator of the eye, rests on the lower border of the orbit, completely overlapping the lower lid. When we are able to get a view of the eye, we find that there is always more or less chemosis round the cornea; the latter has the appearance—usually found under such circumstances—of being depressed, but retains its transparency unimpaired during this stage, and the power of vision is still preserved.

From beneath the swollen lid the purulent discharge flows in great quantity, producing an excoriated condition of the cheek, and, frequently, an enlarged gland may be observed in front of the ear. In some cases the matter collects under the lid, filling up the depression within the circle of the chemosed rim, and completely obscures the cornea. The amount of matter formed in the twenty-four hours is quite equal to that which a very large ulcerated surface would discharge, and may be estimated at several ounces. During a visit of an hour's duration I have had the eyes of a number of patients frequently cleansed, and observed the discharge to re-form with incredible rapidity. Considering the amount of local inflammation, there is little attending fever, and not much complaint of pain. Appetite remains, and the patients obtain sleep; but when ulceration takes place, and inflammation extends to the structure of the cornea, severe pain is then experienced in the eyeball and through the brow, smart irritative fever is set up, and sleep entirely deserts the patient. The discharge alters from the thick creamy matter of the first stage to a thin red serum, mixed with pus; this alteration in the quality of the discharge denotes extreme danger to the eyeball. When the disease is not arrested,

and when ulceration extends deeply through the cornea, so as to penetrate the anterior chamber, the patient usually soon obtains relief from pain.

In the more favourable cases, when the acute stage has passed over, and the swollen condition of the eyelid has so far subsided that the eye can be inspected, there are generally observed one or more small transparent ulcers at the margin of the cornea; the chemosed rim, in some degree, still remains, but the red colour is less vivid, and the tension markedly reduced, with entire absence of pain; vision is wonderfully little affected, and light is well borne. In fact, it is a matter of surprise that, after such violent inflammation, the eye should have suffered so little injury. But when we come to the examination of the eyelids, we find that, after every case of the fully developed disease, the lining membrane has undergone alteration of a more or less serious nature. In the milder cases a highly vascular and villous condition is produced; in others redundant folds exist, which project forward between the lids whenever an attempt is made to open the eye. The lining membrane of the upper lid is found, in addition, covered with granulations which are usually soft, and of a transparent gelatinous appearance. The small, pointed, hard, granulations, which are so little amenable to treatment, are a formation of a much later growth; and I am disposed to think that few cases of this latter inveterate description would occur, if sedulous attention were paid to treatment in the early periods of the disease. However, all experience proves that, even in the less severe cases, it is difficult to restore the membrane to its original condition; and the fact cannot be too strongly impressed, that, as long as a granular or villous condition of the eyelid remains, so long will there be danger of relapse of the original disease in its acute form, in addition to the more remote evils which must result from the irritation of the eye by the roughened lid. In the early period of the disease there is a tendency towards inversion of the lids; in the latter they are apt to become everted. In some instances the tarsal edge is thickened, and the ciliæ become distorted, and fall out. The caruncula and semilunar fold remain congested and enlarged, after the other parts of the ocular surface are restored. I have never known the inflammation to extend to the lachrymal apparatus, or abscess to form in the sac; neither have I observed inflammation to extend to the deeper structures of the eye leading to the formation of matter; nor have I seen sloughing of the cornea which is mentioned by some writers. Whenever the eye is

lost, it is, in my experience, in consequence of ulceration of the cornea penetrating the anterior chamber. When this happens at only one point, hernia of the iris is the consequence, and the patient may recover with excellent vision; but when ulceration takes place more extensively, or at several points of the circumference of the cornea, there is very frequently complete destruction to sight.

It is not my intention here to enter upon a lengthened dissertation on the treatment of purulent ophthalmia and its effects; but briefly to detail that practice which has proved most successful at the North Union Hospital. From the etiology of the disease given in the foregoing pages, it will be inferred, that the first and most important step in treatment is the removal of the patient from the crowded dormitory into a healthy hospital ward. He is at once placed in bed, and if the case is in the first stage, an attempt is made to cut the disease short by dropping into the eye a collyrium, consisting of one part of liquor plumbi subacetatis, one part of vinum opii, and two parts of distilled water. This drop is repeated every hour, and in a large proportion of cases the disease is checked, and gets well without the use of any other treatment whatever, either local or constitutional. A solution of nitrate of silver, four grains to the ounce, may be used in the same manner, but after repeated comparative trials of both applications, my decided preference has been given to the former.

If the patient does not come under notice until the eye is closed by the swollen upper lid, the drops are never used, as it has been found that in this stage they fail to arrest its progress, and often act injuriously by adding to inflammation. Leeches are at once applied at a little distance from the outer angle of the inflamed lid, and their application repeated at short intervals.

The frequent application of a small number succeeds better than one large leeching, which weakens the patient, and fails to cut short the disease. In addition, the lower lid is everted, and its villous surface lightly scarified. The incisions generally bleed freely, and the inflamed membrane, on the instant, becomes of a paler colour. This plan of depletion is repeated daily and, in many instances supersedes the necessity of frequent leeching.

General bleeding is never practised; neither is cupping resorted to.

The bowels are freely opened with a solution of sulphate of magnesia, with a little dilute sulphuric acid; and after the

acute stage has passed over, the same mixture is given, with the addition of quina and sulphate of iron.

When the chemosis is very turgid and tense, it is carefully incised with a sharp eye knife, or lancet, and if an ulcer is observed at the margin of the cornea, the incision is made opposite that point.

For some time past I have abandoned the operation of snipping out a portion of the chemosis, which has been recommended by some writers, as I found it to increase inflammation, and to accelerate the progress of the corneal ulceration. All through, the greatest attention is paid to the removal of the irritating matter from the eyes, this is done by gently injecting over them tepid water, or poppy decoction, from a gum-elastic syringe.

The eyes are cleared of the adhering discharge with small pieces of old linen, which are thrown away immediately. Sponges are never allowed; but worn-out sheeting is torn up into small pieces, and several bits left daily on the head of each bed. Owing, as I believe, to these precautions, the complaint, which is generally admitted to be highly contagious, has never extended to the other children in hospital, or to any of the attendants. In the first days of the attack, a sufficiency of light nourishing food is allowed, and when the acute stage is passed, full diet is given, with porter, tonics, and in some cases cod-liver oil.

Mercury is never prescribed in any form during the acute stage; and I am strongly of opinion, notwithstanding the high authorities that have recommended it, that it should be entirely excluded from the treatment. The deep-seated pain through the eyeball and brow denotes that inflammation has extended to the structure of the cornea, and that ulceration has taken place; but the inflammation is not of the adhesive kind that calls for the action of mercury. I must, therefore, enter an earnest protest against its use, as I believe that it is eminently calculated to increase the activity of the ulcerative process, and so hasten the penetration of the cornea, and consequent loss of the eye. After the inflammatory stage has, for some time, passed over, it is, however, prescribed with much advantage in the form of the bichloride for the removal of the deposits and corneal opacities which are so frequently observed to remain.

As soon as the vascular tension has, in some degree, subsided, the eyes are frequently syringed with a weak solution of alum, which, after a few trials, is increased in strength, and finally used in the saturated form. The nitrate of silver in the pro-

portion of four grains to the ounce, is also used with advantage; but I prefer its application to the lining membrane of the everted lid, in preference to having it dropped into the eye.

In this stage the upper lid is daily everted, and its congested surface lightly scarified, the flow of a very few drops of blood being sufficient to cause marked paleness of the villous surface. When the granular condition of the membrane still persists, its surface is brushed over with a solution composed of sulphate of copper, sulphate of zinc, and sulphate of alum: three grains of each of the first two salts, with six of the latter, to the ounce of distilled water. A drop of a solution composed of five grains of sulphate of zinc, two drachms of wine of opium, and one ounce of water, is always used with advantage at this stage.

Escharotics in substance are never used, as I believe that they injure the delicate structure of the conjunctival membrane, and lead to the establishment of the hard, incurable form of granulation. The application of the acetate of lead in powder is also avoided, for the same reason.

As soon as possible the patients are allowed into the open air, and are not permitted to return to the crowded dormitory, or to the confinement of the school-room, until all trace of disease has disappeared from the conjunctival membrane.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Influence of Tropical Climates on European Constitutions, including Practical Observations on the Nature and Treatment of the Diseases of Europeans on their Return from Tropical Climates. By JAMES RANALD MARTIN, F.R.S., &c. London: Churchill. 1856. 8vo, pp. 600.

WHEN called upon to express an opinion as to the value of any work submitted for review, our first act is to consult the title-page, and see under what circumstances it is probable that the author has written; as well as the opportunities which he has had of studying the diseases of which he treats; to ascertain, as it were, whether he is writing from practice, or for it.

In the present instance, however, we have departed from this general rule, for the name of Martin in connexion with the subject of tropical diseases is, we doubt not, as familiar to our readers as to ourselves. We—as, indeed, most physicians long in practice—have often consulted the joint work of Dr. Johnson and the present author; and from its pages derived more practical information than from those of any other writer.

The present volume, however, is not to be regarded in any way as a reprint of that book. The work before us is a recast and rewritten work; even the introductory chapter has been rewritten, so much only of Dr. Johnson's observations being retained by the author as appeared to him proper to the subject, all beyond being exclusively his own composition. Mr. Martin's work must be considered doubly valuable, from its being directed not only to the cure, but also to the prevention of disease—a point of infinitely more importance to society and the community at large, circumstanced as this country is at the present time in relation to our Indian possessions. The resources of that vast continent are opening up day by day

before the progressive strides of commerce. Coal and iron, pointed to by the finger of science, are being dislodged from the bowels of the earth by the arms of industry and adventure, whilst blast-furnaces belch forth liquid metal, and rollers run out hundreds of miles of rails in spots where the tiger and jackal but lately ranged unmolested.

India is, indeed, a changed country. A few years since, and it received annually a certain number of Europeans, who, quitting home at the early age of boyhood, looked to no other prospect than that of passing the prime of life in indolence and inactivity, to return at its close to their native country, enriched in purse, but ruined in constitution. Now all is altered. The rapid intercourse of the overland route brings England and India, as it were, almost close together; the regularity of postal communication binds those who *are out* and those who are at home by a chain of correspondence that keeps united every fond tie and kind affection, dispels all ideas of intervening distance, and forbids that feeling of banishment, which formerly associated itself with East Indian service, from clouding the sunshine of happiness any longer.

India, too, is no more the close borough it formerly was. Those prizes which, a few years since, were comparatively inaccessible to the majority of the public, are now within the reach of all; the hand of fortune, which was closed, except to the families and friends of the Directory, now opens at the bid of talent, and Indian appointments become the property of intellect.

Looking, then, upon the country to which the volume before us particularly refers in this light, and viewing it as the vastest field for enterprise and labour, we cannot but regard a work upon its diseases, and their influence on the European constitution, as of excessive interest to society.

The contents of the book have been separated by the author into two great divisions: the first pertaining to the nature and treatment of the diseases of Europeans whilst within the influence of a tropical climate; the second, to the nature and treatment of the diseases of Europeans on their return home—subjects as different as it is possible for any in the range of medicine to be.

In relation to the prevention of illness, the author's remarks are directed to the consideration of the following points:—viz., the action of the sun upon the atmosphere; the hot season, the rainy season, the cold season, and their relative effects; the capability of man to bear change of climate; perspiration; sympathy of the skin with internal organs; food, drink, dress,

bathing, exercise, sleep, with the conduct and government of the passions.

The latter sentence bears upon a subject not usually alluded to. It has, however, reference to matters so closely implicating the welfare of those for whose guidance it is intended—viz., the young Indian just launched into life—that we cannot but introduce a few lines relating to it here.

Mr. Martin says—

"It is an erroneous impression that there is something peculiar to the tropics, which excites certain passions in a higher degree than in temperate regions.

"The nature of this propensity, the cause of it, resides neither in the air, nor in the brilliancy of the skies; it lies only in the breast of the individual, who has no excuse for permitting it to grow into the wild luxuriance of unbridled excess."

The effects of licentious indulgence between the tropics, he will find, when too late, are much more dangerous and destructive than they are in Europe, and "involve a train of consequences embarrassing, if not embittering, every subsequent period of life."

What is the remedy proposed to meet the monotony of life and apathy of mind so conspicuous in hot climates, and so directly leading to vicious connexions? One that we can most confidently recommend—"A taste for some of the more refined and elegant species of literature; it will prove an invaluable acquisition for dispelling *ennui*—that moth of body and mind."

The diseases of the country, brought consecutively under notice in the first portion of the work, are, intermittent and remittent fevers; the congestive continued fever of the cold season; the ardent continued fever of the hot; with the fevers of the natives of the country; acute dysentery; chronic dysentery; diseases of the liver; endemic congestion of the spleen; epidemic cholera; hemogastric or yellow fever; and delirium tremens.

The diseases resulting from long residence in the tropics which affect Europeans on their return to England, and which constitute the subjects discussed in the second division, are—anemia; chronic diarrhœa; chronic dysentery; congestion; torpor; and chronic enlargement of the liver.

Who that scans his eye over this category of acute and chronic diseases (all more or less serious, and some deadly in their character), but will hail with pleasure the issue of a work, written from the observation of an hospital and private practice of two and twenty years?

We have said that the value of Mr. Martin's work is enhanced by the attention which it directs to preventive or prophylactic measures, in connexion with disease. The remarks which he offers on this subject are not directed solely to the preservation of individual health, but are framed upon a larger basis—viz., with a view to the relief of those who have it not in their power to relieve themselves, the soldiers of our Indian army, the costly, but necessary, maintenances of our rule in the East.

Mr. Martin, in the commencement of this subject, refers to an observation of M. Thiers, and says:—

"M. Thiers remarks that in ordinary histories of war we see only armies completely formed and ready to enter into action; but it can scarcely be imagined what efforts it costs to bring the armed man to his post, equipped, fed, trained, lastly, cured, if he has been sick or wounded. All these difficulties are increased in proportion to the change of climate, or the distance to which the army moves from the point of departure. Most generals and governments, he says, neglect this kind of attention, and their armies melt away visibly. Those only who practise them with perseverance and skill find means to keep their troops numerous and well-disposed."

Upon this paragraph Mr. Martin enlarges, and offers the following truisms, which experience is, day by day, forcing upon the minds of all:—

"Of the efforts and difficulties here announced, those of the medical officer are not the least, although nowhere else, if he were fully trusted, could his services be so effective as in the preserving of the soldier's health. As it is, his disadvantages are endless. He is consulted, perhaps, on active service, through ignorance or caprice, often when it is too late, but more generally not at all; and thus the soldier always suffers. In the British armies, at home and abroad, the rule is to leave everything, even of a sanitary nature, to the proper authorities, as they are called; and thus much is on all occasions found to be wanting. There is nothing so difficult to deal with, whether in public or private life, as the troubles we create for ourselves.

"When a commander by sea or land is invested with authority, he always desires it to be understood that he is complete master of the situation—that he knows everything, and will do everything. But when such a man knows little, and does less, as too frequently happens, then the results are sure to be disastrous, whether we look to considerations of health, or to the completion of warlike enterprises. The truth is, that Governments may confer material power on governors, admirals, and generals; but if they do not possess moral power, it is as nothing.

"Nor is ignorance and neglect of matters affecting the health of the soldier confined, as is supposed in civil life, to blundering and ill-informed lieutenants; for far otherwise is the case. When very young, and serving in one of the most pestilential countries known in India, I made a topographic examination of the localities, and reported the result to my commanding officer, suggesting at the same time what I regarded as the most suitable arrangement for encamping the men, against the coming rainy season, when it was well known that a great increase of deadly fever would result. The answer was—'I'll be d——d if I do.'

"Now, here was no blundering lieutenant, but, on the contrary, one of the most able and well-informed field-officers I have ever known; yet, such was his treatment of a grave matter of duty, and the neglect of which, before the year was over, cost him his life.

"Again, on landing at Rangoon, during the first Burmese war, I was credibly informed that the superintending surgeon of the Bengal division there had warned the officer commanding that, without fresh animal food and vegetables, the European soldiers must perish from scurvy. The answer was characteristic, and somewhat more civil than that granted to me. It was this:—'Medical opinions are very good, sir, when they are called for.'

"Here also was no blundering subaltern, but a gray-headed general of reputation, and one who received much honour and profit, after his army had perished miserably.

"If it be asked how come these things, I answer that it has always been so, and that it always will continue to be so—until it is ordered otherwise.

"In all our wars pestilence will everywhere be found to form their most dismal and affecting page; yet it need not have been so. In none of our most fatal expeditions—in that of Rangoon, for instance—was there any actual necessity for serving decayed rations to our men, or for exposing them through the hot and rainy seasons, to excessive fatigue, to the rank air and damp encampment—there to be destroyed, without notice and without remembrance.

"Governments and communities sympathize readily enough with the soldier's triumphs, but not with his perils and sufferings. Of sympathy with his sufferings from hunger and thirst—from long and forced marches under the burning sun and the heavy dew—from the cold bivouac—from the long suspense attending field operations; with these, and with his sufferings from inscrutable pestilence, there is but little sympathy; yet they are, after all, the most ordinary, as well as the hardest trials of war. For one soldier who is struck down on the field of battle, ten, sometimes twenty, are lost to their country through the unappreciated hardships here briefly recounted. England, often engaged in great wars, is, of all nations, the most slow to learn the real nature of war and of its requirements; and when peace arrives, all the experiences of former wars are forgotten in the pursuits of commerce. When we complain of inhumanity, military errors, and disastrous national failures,

political adventurers and sophists are always ready to declare that 'we have not suffered more than we have invariably done before on many similar occasions.' Such men always have an eye to fair seemings, hollow consistencies, and present conveniences, rather than to truth."

Who that reads the above, and compares it with the Crimean revelations, but will inwardly say, at the termination of each separate sentence, Alas! too true?

From the Prevention of Disease, Mr. Martin proceeds to the consideration of "The Remittent Fever of Bengal," a subject of individual interest, since these fevers will be found almost everywhere throughout the East Indies, and few escape their attack. Our author says:—

"The attack of the Bengal remittent fever is usually sudden, though occasionally the patient may complain for a day or more of weakness and lassitude, headach, nausea, and general uneasiness, accompanied by mental depression, or subdued anguish. The countenance is pale and shrunk—the conjunctivæ clear, and of a dull whiteness. During this premonitory stage of malaise, the pulse is small, contracted, and frequent, with a slight increase of the temperature of the surface, especially over the forehead and precordia, and a diminished action of the intestinal and urinary organs, as well as of the skin.

"The actual invasion of fever is ushered in by debility of the mind and body, indicative of diminished power of the nervous system, by shivering, or horror, the sensation of cold recurring in paroxysms, not being continuous. The headach now becomes intense and darting, with sense of tension across the forehead, as if with a tight-drawn cord, and with pain in the back and loins, or on moving the eye-balls. The eyes now look muddy, or are tinged yellow, being void of lustre and expression; or else they have the appearance of deep-seated inflammation; occasionally, they are protruded, giving a wild and passionate expression to a countenance already flushed and anxious. At other times the countenance is bloated and torpid, expressive of general congestion, or of what the patient terms *inward suffering*. There is frequently a distressing giddiness which occasionally proceeds to delirium. When this last symptom appears early, and runs high, we may anticipate a dangerous form of fever.

"The tongue is red at the tip and edges, loaded, clammy, and moist; at other times, with a bitter or bad taste, the tongue is but little changed from the healthy appearance. The thirst is usually most distressingly urgent, and the previous nausea is now increased to actual and severe bilious vomiting, accompanied by distressing sense of oppression and burning pain of the precordia."

Have any of our readers suffered from this disease, as we have done? If so, as they read the description of its outset and

progress, they will fancy themselves back in Bengal, sitting with their forehead resting on their hand, their elbow on their knee, abject, wretched, miserable, beyond description. The ineffectual attempts to vomit, the empty stomach clenching itself, and contracting with a violence that must be felt to be fully known,--these all recur like realities of yesterday, and will make each one mentally subscribe to the truth of the picture, and say--the man who penned this description truly saw that of which he writes.

The pathology and means of cure are next considered, and most fully treated, the author's remarks proceeding to the consideration of the application of remedial means to the individual case, and terminating in the management of convalescence. As in every portion of this work, so here, no wild theories or fancied notions are allowed to run rampant, but common sense prevails, and the treatment recommended for adoption may be imagined from the perusal of one sentence:—

"Let," says the author, "the physiology of the disease, and the habit and condition of the patient, guide the application of remedies, and we shall approach as nearly to the correct measure of means of cure as human endeavours can compass."

Perhaps of all the affections treated of, none comes more frequently under the observation of the physician at home than that denominated "torpor of the liver." Few who are in the habit of seeing Indian invalids but will recognise the faithful picture here given of the long resident of the tropics, who, after having undergone much direct solar exposure, has returned to the cold and damp of an English climate:—

"He will be found of a 'sallow, miasmatic, melancholy aspect.' There is, in some persons, a remarkable and peculiarly offensive bilious odour issuing from the skin and lungs, which no amount of attention to personal cleanliness can overcome. Others, again, in addition to these unpleasant exhalations, see every object through a yellow medium. The patient is harassed with dyspeptic ailments, varying in degree according to circumstances of constitution, previous habits of life, and length of residence in hot climates. There is in all cases a reluctance to exertion, mental or bodily, and frequently we find the mental faculties depressed to an extent that is truly distressing. The patient generally complains of headach or vertigo, accompanied by coldness of the lower extremities, the headach being sometimes severe, and occasionally paroxysmal. The sleep is dreamful, disturbed, and unrefreshing—the temper capricious, peevish. Occasionally there is a short, hacking cough, and the bowels are always irregular, the functions of the cæcum and colon

being much disturbed, the excretions being depraved, ash-coloured, and scanty; while the urine, in all the instances in which I have examined it, contained an excess of urea, uric acid, or phosphate of lime, but most frequently of all the oxalates of lime in considerable quantities. The lithic, phosphatic, or mulberry diathesis may predominate, but some renal disturbance is almost invariably met with in this class of cases."

Mr. Martin next proceeds to speak of the vicarious action of the kidneys, in compensation of the defective powers of the liver, and directs attention to this interchange of function, and, through it, to the use and value of diuretics, holding, however, at the same time, in due recollection the relative dependence and compensating powers of the lungs and skin.

The anemic state of the general habit, so common to patients suffering from torpor of the liver, is adverted to strongly by our author. On this subject he delivers himself in clear and expressive language, and fully details the evils to be anticipated from the abuse of mercurial preparations in this condition of the vital powers. Digestion and assimilation are impaired, the gastric and pancreatic fluids become defective and deranged, and nutrition consequently stopped.

"Anemia is uniformly productive of torpidity of the liver, the biliary secretion being depraved in common with its source, and having, in some cases, more of the character of serum than of bile. It ought here to be evident, that the endeavour to elicit a more abundant and healthy secretion, by mercurials and drastic purgatives, while the nutritive functions are impaired, and the blood remains impoverished, must be alike vain and injurious."

"In treating torpor of the liver, with its complications, it must be borne in mind that our object is to solicit rather than to urge the restoration of the impaired functions, and that such can only be effected with safety by gentle and persistent means, always holding in view the improvement in the nutritive qualities of the blood. We must here be content to look to the actions resulting from the means in use, however gradually brought about, rather than to specific operations. We must even be careful not to push remedies too far."

"In referring to the treatment of the troublesome and obscure affection now under consideration, we must recollect, not only that we have to deal with torpor of the secreting and excreting power, but with viscidity and adhesiveness of the secreted fluid, and also with diminished power in the gall-bladder and ducts to eliminate their contents, with the addition, perhaps, of thickening of the parietes of the vesicle and its canals—thus affording additional and mechanical obstruction to the discharge of the bile. In some persons this torpor of function is so great, and the case proves so little

amenable to treatment, that we are forced to suspect some alteration, more or less extensive, or some permanent injury to the elementary secreting structures of the liver."

"The most cursory inspection of such a patient, the most superficial examination into the history of his case, ought at once to satisfy the medical observer that with mercury especially, he should, in this instance, have nothing to do. The tropical invalid will generally be found to have had quite enough of that mineral during the acute stage of his disease, and when it was necessary to his cure. The true remedies in the anemic complication are,—the alteratives already mentioned, bitter tonics, chalybeates, mild aperients conjoined to chalybeates, great attention to the diet, and to the habits of life—so as gradually to invigorate the system."

How much common sense is here given—plain language, devoid of medical jargon and the long-coined words of some writers of modern days.

Mr. Martin does not, however, we consider, lay sufficient emphasis upon the necessity of instituting a careful inspection, ocular and manual, of the hepatic region, in all cases, before proceeding to treatment. We regard it as essential, in every instance, to make an examination into the condition of the vicus itself, as well as of its neighbouring viscus the spleen, and to do so not cursorily, but with the patient's abdomen fully stripped, so that the whole general aspect of the abdominal parietes can be scanned, the degree of obesity, or the reverse, noted, and the presence or absence of fluid in the peritoneal cavity clearly ascertained. The patient should be examined, too, both in the erect and recumbent position, and at an interval of some hours after his last meal. To some these directions may seem superfluous, but we know that they are too frequently not attended to.

The condition of the viscera being ascertained, the indication of treatment becomes correspondingly clear:—

"When I have reason to conclude that organic changes have taken place in the liver, or that its torpor is associated with induration or enlargement of the spleen, I have recourse at once to the nitro-muriatic-acid bath. It is a very powerful remedy; it acts powerfully in promoting the depurative functions of the liver, kidneys, bowels, and skin. I have, therefore, during more than twenty years, in India and in England, used it in many of the chronic affections of the liver, functional and structural, believing it, on the ground of my experience, to be an agent of the first order of importance."

The form of preparing, and mode of use of the nitro-muriatic-acid bath are then given, both for immersion of the whole body,

the pediluvium, and the sponging bath. Reference to the therapeutical effects of mineral acids, and the opinions entertained of their action and efficiency by other authors, follows, succeeded by cases illustrative of the effects of this remedy. We have equal confidence in it, if used with sufficient perseverance and in sufficient quantity. Too frequently an idea of false economy is allowed to prevail in the adoption of this and other remedies; too little of the respective application is employed, and too little time given to its use.

We take leave of this book, congratulating Mr. Martin as the author, and Mr. Churchill as the publisher of a work, for which we can most certainly prognosticate a large and continuous sale. We have no hesitation in regarding it as the standard work upon the many important subjects of which it treats.

Mèmoire sur le Traitement Chirugical des Abscès du Sein, par le Méthode du Drainage. Par M. le Docteur Chassaignac. Paris. 1855. Royal 8vo, pp. 34.

This memoir is a reprint of one that appeared in the Gazette Mèdicale de Paris, and describes a plan of treating mammary abscesses, which, if not absolutely new in principle, is yet carried out more consistently and more rigorously than has been hitherto attempted, we believe, by any other surgeon. The following are the general rules of practice followed by M. Chassaignac in the treatment of these cases:—

1. To open at the outset all abscesses of the breast, without exception.

2. To clear these abscesses of purulent matter as completely as possible, by pressure, suction (with a cupping-glass or breast-pump), and injections of tepid water.

3. To attempt union by the first intention.

4. When this is not successful, to place in the opening a canula, and daily to wash out the sac of the abscess.

5. Gradually to dispense with the use of the canula by shortening it, and occasionally intermitting its employment, and so to effect "secondary union."

After opening an abscess and expressing as much pus as is possible by the pressure of the fingers, the sac of the abscess is syringed with tepid water till this is returned free from any admixture of purulent matter: the "pansement par occlusion" is then applied; but what kind of dressing this exactly is, the

author does not seem to think it necessary to state. In attempting secondary union, the canula he employs is made of the ordinary Indian rubber tubing; having got a piece of the proper length, one end is cut "en bec de flute," whilst the other or outer extremity is split, and thus held *in situ* with strips of adhesive plaster. Through this artificial duct the interior of the abscess is douched with tepid water once or twice every day. Several cases are detailed by M. Chassaignac, which exhibit this mode of treatment as being very successful, though not more so than another plan of treatment which we have frequently seen employed, and which differs considerably from that recommended in the memoir before us. To the method of M. Chassaignac there are some strong objections, and one is the intense pain it must occasion. An inflamed breast is, as every one knows, not alone the seat of most acute pain, but also of the most exquisite sensibility:—the mere approach of a finger to the part is sufficient to flush the patient and make her tingle with dread. What then must be the torture inflicted by our "*pressions expulsives*," suctions, and douches, superadded to the incision of the abscess?—and all this, be it remembered, at an early period of the abscess whilst it is still acute, and before there has been time for any abatement of the inflammation. This practical difficulty is foreseen by the author, by whom it is easily got over with the recommendation "to have recourse to chloroform." For the better understanding of the cases which he has treated by this "drainage" method, M. Chassaignac gives a classification of mammary abscesses. The necessity for this was not very apparent, as the kind of abscess makes no difference whatsoever in the treatment. He divides them into—first, abscesses external to the gland, peri-mammary, or extero-mammary; and secondly, abscesses seated in the substance of the gland,—endo-mammary or intero-mammary. So far this is a very excellent classification, and sufficient, one would think, for all practical purposes. But there is no refinement about it, and hence the author proceeds to make further subdivisions, which are chiefly recognisable on paper, and very seldom in practice. The "peri-mammary" abscesses are divided into two groups, viz., the subcutaneous, and sub-adenoid. Of the subcutaneous peri-mammary abscesses we have three varieties, namely, the simple phlegmonous, the angeioleucitic, and the diffused: of the sub-adenoid (or postero-mammary) we have also three varieties,—the phlegmonous, the hygromatic, and the cold or chronic, arising from osseous disease.

The endo-mammary class have two subdivisions, viz., the canalicular, and the interlobular. The former of these is

recognised by the discharge of pus from the nipple, or of milk from the abscess, when this has opened spontaneously, or, having been very superficial and the matter near the surface, has been opened with the lancet. M. Chassaignac speaks of this variety of mammary abscess as though it were but imperfectly understood: but we hardly think there is any practitioner of moderate experience or observation who has not met with and recognised abscesses of this description. They are, in fact, the true "milk abscesses."

Although not subscribing to all the author's rules of treatment, we nevertheless willingly confess that we have derived instruction from the perusal of his memoir, and must admire the decision and consistency with which he has carried his principles into actual practice.

Ocular Spectres and Structures as mutual Exponents: a Treatise. Eustachian Tube, why opened in Deglutition: a Paper. By James Jago, A.B. Cantab., M.B. Oxon., Physician to the Royal Cornwall Infirmary, &c. London: Churchill. 1856 8vo, pp. 110.

When we are led to reflect on the many and varied advantages which we derive from the enjoyment of light, it ceases to be a matter of surprise that the investigation of this subject should have engaged the attention of the philosopher, from the earliest ages, in the arduous attempt to elucidate its primitive sources, the causes by which it may be, directly or indirectly, affected, and the manner in which our perception of it is regulated by the eye—the optical instrument with which the liberal hand of a bounteous Creator has so kindly endowed us. Affording, as it does, a scope of inquiry so very extensive, its limits seem to be absolutely indefinite, and, every succeeding labourer in the field adding the results of his intellectual toil to the general stock, it has so increased by those continued accumulations, that it has at length attained a magnitude perfectly astonishing. Moreover, the subject is one of such engrossing fascination, that an individual, when once fairly embarked in its mazes, is irresistibly led to devote all the faculties of his mind to its elucidation, and ultimately becomes so completely absorbed in his self-imposed task, as to set at defiance that mental lassitude and weariness which, in the earnest pursuit of other studies, will always compel their most sanguine worshipper to pause, and allow exhausted nature to recover that power and tone

which she has temporarily lost by an exertion too long continued and intensified.

In the Treatise at present before us Dr. Jago appears to have directed his attention, certainly with no small degree of assiduity, to the investigation of a particular branch of this subject, and to have bestowed no trivial amount of pains in the conscientious effort of striving to verify, by repeated and varied experiment, the truth of the views which he has advocated, his object being simply to account for certain phenomena incidental to vision, which appear to the spectator to be, as he expresses it, "external to the person," while in reality they are seated in the eye itself, the rays which enter it being diverted from their natural course by some ordinary cause, which he endeavours to explain on grounds purely rational and physiological. But, perhaps, it may be better to give in his own words the object which he proposes to deduce from his ulterior researches:—

"Impressed with such views, the author of the foregoing remarks has laid on himself the task of endeavouring to accomplish the elimination here spoken of. Nor can he deem the time so occupied wasted, if he does not deceive himself as to the results he has obtained. He finds that in the transparent ocular media structural spectra are created which have begotten erroneous opinions on those media; and that certain anomalies incidental to the organ of sight, which have been regarded as evincing a capricious conduct in the retina, optic nerve, or brain, are purely mechanical in their origin,—insomuch that, contrary to what is commonly believed, the laws which regulate the action of the special sense implied are absolute and simple.

"Further, since certain objects existing in the ocular lenses can in no way be rendered visible in the dead eye, and yet, as will be explained, are made conspicuous by the reflection of light in our own eyes—yielding images exceeding the objects themselves in diameter, with a wide retinal expanse as a field of view—the eye is in many important respects, if we can rightly use it for self-scrutiny, a microscopical instrument of unrivalled power; and we can thus determine structure where all other means have failed, and the many obligations owing to histologists in these researches will, in part, be repaid; whilst the title, 'Ocular Spectres and Structures as mutual Exponents,' will be justified.

"In the practical solution of the first question that we have to deal with in this undertaking, that of finding the place of any body in the eye which casts a shadow (the images which we shall meet with in the course of our inquiry, if not mere shadows, may temporarily be considered as such, as being in the line of the light admitted into the eye) on the retina, as well as in informing ourselves as to the character of such a body, we make observations with divergent

and convergent pencils of light, as well as with focal light. As so much depends, therefore, upon a correct appreciation of the conditions of vision, under the circumstances referred to, it will be well to begin with a few remarks on these in the instruments we shall employ."

It would occupy far more space than we could reasonably spare to follow Dr. Jago into a complete detail of the measures he proposes to employ, in order to accomplish the object which he has in view; and we must, therefore, refer the reader to the introductory pages of his first chapter, where he will find them all severally enumerated, though at the same time accompanied by explanations so meagre and obscure as to render the task of arriving at their proper solution an enterprise of no common difficulty and labour. With these preliminary remarks, we will, without further preface, proceed to the analysis of the work itself.

The second chapter professes to treat of the optical effects occasioned by the eyelashes, eyelids, and the conjunctival fluids, with the influence which they may exert on natural vision. He shows how the appearances which the latter, as a single tear-drop, may present, are totally altered in character, as we are led to examine them under light either convergent or divergent, and gives an illustration of them as they are manifested under both circumstances. We must, however, candidly state that his mode of expressing himself is so very obscure, it requires no little ingenuity and labour to arrive at a clear perception of what is really meant by some of his observations; and, in proof of what we assert, we give the following extract as an example of the style employed, merely remarking that the punctuation and the arrangement of the sentences, with the interpolated parentheses, intended, no doubt, to be explanatory, are his, and not ours.

"The appearances thus far described are everyday spectres in various scales and fashions. If we look at a candle flame, or any moderately-sized luminous disc, any hair that obtrudes itself upon the view will occasion a long line of diffractive effects, or broken repetitions of the flame, besides reflect light into the eye (the hair and axis of the flame are supposed to be nearly parallel to each other; if there be a great deviation from this, the images of the flame will be repeated lengthwise, and fuse into one stream of light). The appearances extending over considerable space, because the pupil receives light from some directional range. The very drop of conjunctival fluid which gives us a succession of fringes, if brought against the centre of a distant flame, will place round it a corona of richly coloured rings, separated by dark ones. The image of the

flame being indicated in such portions of the luminous rings as are parallel to the flame. A number of tear-drops or unevenness of the superficial fluid will mix their effects together and at least form a misty halo round the flame," &c., &c.

In his third chapter, Dr. Jago refers to the optical structure of the iris and crystalline lens, and in his remarks on the latter alludes to certain opaque bodies which he affirms to be scattered through its substance, and hazards the conjecture that some may be also found on its surface. After very candidly confessing his inability to determine whether they are natural to its organization or the consequence of disease, thus evidenced in the production of abnormal deposit, he next draws attention to others of a transparent character, which he would most willingly have supposed to be examples of extraordinary development, or a species of extrusion of the formative epithelial cells but for the authority of Kölliker, whose opinions on the subject would not exactly countenance such an idea. It must however, prove a matter of no ordinary consolation to all, to be very gravely assured that the existence of those delinquent bodies, although seated in the very axis of vision, need occasion no undue feelings of uneasiness or alarm, as, from their extremely minute size, they can never seriously interfere with our enjoyment of that function.

It had been our intention to have hazarded a word or two on the radiated structure of the crystalline lens, as observed by the author; but having accidentally cast our eye over the pages of Müller we fortunately discovered a plate or illustration of this particular part of the organ of vision, and we consider it abundantly sufficient to account for the ocular spectres or illusions which gratified the author's anxious gaze, after his long and laborious scrutiny.

The fourth chapter treats of the structural arrangement of the vitreous humour, and is thus portentously ushered in:—

"*Enunciation.*—From innumerable points of the wall of the posterior chamber of the eye, as far as the hyaloid membrane extends, though in no instance from the remaining part formed by a portion of the capsule of the crystalline lens, there spring beaded threads—or fibres, consisting of rows of transparent, globular, and equal (or exceedingly nearly so) cells, of less specific gravity than the fluid which fills the chamber. These cells quickly unite in pairs (or occasionally otherwise); single (or a less number of) threads proceed from the knots thus made," &c., &c.

We candidly avow our inability to understand the latter part of this sentence, as we had always been led to believe

that where the term single was employed, it implied unity, than which, up to the present moment, we foolishly conceived there could not possibly be a "less number." We are, therefore, exceedingly grateful to the author for the information, as, perhaps, it may have a tendency to eradicate a grievous error, under which our mind has laboured from childhood to the present hour. With the exception, however, of occasional transient lapses of this nature, we must acknowledge that he has succeeded in working out a very probable hypothesis, as to the ultimate structure of the vitreous humour, for which we would be more willing to award him all the credit he apparently deserves for the originality of his views, could we altogether divest our mind of the idea—erroneous, it certainly may be—that they have been founded, in a great measure, on preconceived impressions, unconsciously acquired from the works of the various recent physiologists and histologists which he has been apparently studying, and whose observations appear to have incidentally intruded themselves on the confined field of vision, which he was so anxiously surveying, in the form of those phantasms which he so minutely portrays.

His fifth, and last chapter, is occupied with a dissertation on the optical structure of the retina, and here he has really educed some very excellent and original observations, more especially as to the peculiarity of its arterial supply; and these he has confirmed not only by positive experiments, many of them novel in their character, but, where this was impossible, or at least difficult, to be accomplished, he has essayed to corroborate his views by arguments confessedly ingenious, if not always convincing. We take, as an example, the following extract, in which he alludes to that condition termed the mesmeric trance:—

"By inducing a person to rest his gaze steadfastly upon our looks, or to dwell upon near waving movements which his eyes cannot follow, such as those of our hands, we can lead him into the experiment of causing or allowing his eyeballs to assume a form unsuited for vision, or to shut himself off from the external world, involved in the mist of his own retinal quasi-lights. If his curiosity has been aroused, he will still make supernatural efforts to attend to our proceedings, which are purposely nearly of an uniform character, that his eyes may not be diverted in their gaze, though the fact of his using both organs together proves a hinderment to the most complete result. That confiding subjects, when kept wrapt in darkness, should lapse into sleep, is not astonishing. Besides, the feeling of tension (fatigue) in the back of the eye, or orbital muscles, makes the head or eyes very heavy. It has already been stated with what quickness, by some practice, we can effect the ocular alteration in form;

so that we may expect to succeed in getting the eyes of some individuals into the required state with much facility. Thus the same liability of the eye which occasioned the error of retinal 'extension of sensation' has made the name of Mesmer celebrated," &c.

We regard the above as a very fair exposition of that particular affection which has preyed so largely on popular credulity, and, as such, we have been induced to give it in Dr. Jago's own words.

Before bringing this notice to a conclusion, we think it only right to give the author full credit for one point which he has fairly worked out—with respect to the actual mode of visual perception—and, as far as we are aware at the present moment, we believe his idea to be perfectly original; but, previous to doing so, we must hazard a word or two on the structure of the retina, which anatomists formerly conceived consisted of two layers only,—an internal, or lamina vasculosa, composed of the arborescent ramifications of the arteria centralis retina, and an external or lamina nervosa formed by the expansion of the optic nerve. It is now many years since Dr. Jacob, of this city, distinctly demonstrated the existence of a third layer intervening between the membrana pigmenti of the choroid coat and the optic expansion, and this, regarding merely anatomically, he considered to be serous in its character. The more laborious microscopic investigations of Wagner, Kölliker, Todd, and Bowman, &c., have, however, shown, that it exhibits an arrangement much more complicated; but, without proceeding too minutely into their views, it will be sufficient for our purpose to state, that five different layers are at present recognised. These, commencing from without inwards, are:—First, a stratum of minute rods of a conical figure; the second is granular in its nature; the third is composed of gray nerve matter; the fourth is constituted by the expansion of the optic nerve; whilst the fifth, or most internal, has been styled the limitary membrane, structureless in its character, but connected to the first or external layer by radial fibres springing from the latter, and, after permeating through the intervening strata, terminating in feathery expansions on the distal surface of the most internal. This intricate congeries of tissues is supplied by the arteria centralis retinæ, the immediate branches into which it divides, lying at first immediately under the limitary or most internal membrane, their numerous capillaries ultimately forming a trellised network, principally confined to the gray nerve substance. Now the question at issue simply resolves itself into this—Where is the seat of visual perception located? Is it behind the vessels, or in the interstices between them, or in

front of them? We conceive that the author has very clearly indicated that the two first propositions are scarcely tenable; while the third, which he appears to have individually originated, reason and common sense powerfully advocate; for by presuming that the image, as he supposes, is painted on the limitary membrane, the solution of the difficulty is at once effected. The following are the arguments which he adduces:—

"Wherefore, we may sum up by affirming that we have a combination of proofs, each of which is in itself irrefragable, that the percipients extend, by successive contact with each other, all over the inner surface of the retina, so as to cover the vessels and to fill up the spaces between them.

"Now, the only retinal layer that covers all the vessel is the limitary membrane; and, therefore, the percipients must be in that membrane, or lie upon it. But, according to histologists, the membrane has no character about it which makes it calculated for any office beyond that of supporting neighbouring parts. However, a sort of web remains for our consideration: in the region they have determined on, they observe the radial fibres (to reverse their description) to commence by feathery roots from all parts of the limitary membrane, and, infinite in number, to end, after penetrating the intermediate retinal layers, each in a rod or cone, which, by being placed side by side, form a compact layer of normals to the ocular tunics, and these rods or cones they find to be of true nervous matter.

"Hence, here is the very sort of structure we are in quest of, in the very place we would wish to find it, and it exists alone. There are absolutely nothing but the radial fibres, which pass from the front of the vessels between them into the other retinal layers—that is, into the fibres of the optic nerve, the only possible channel to the brain for visual sensations.

"Wherefore the limitary membrane belongs properly to the lenticular eye, of which it is the last part; the extremities of the roots of the radial fibres which spring from it are the percipients, or belong to the nervous eye, of which they are the commencement," &c.

The concluding portion of the volume is occupied with a brief disquisition on the functions of the Eustachian tube. This is sensibly and clearly written, completely, in our estimation, overthrowing the doctrine as advanced by Toynbee, that an occluded condition of this canal, except at periods of deglutition, is essential to insure a just appreciation of sound, as far as the auditory function is concerned; the author having distinctly shown, by a reference to his own individual case, and that of another, both extremely remarkable for the symptoms produced, that its closure at all other times but the period men-

tioned is dependent on a quite different theory. The style of composition displayed in the latter part of this work is so very different from the confused, and sometimes almost unintelligible mysticism in which its earlier pages is enshrouded, that few could be led to suppose they were indited by the same hand. Not, indeed, but we candidly acknowledge that there is evinced, in numerous instances, evidences of deep reflection and sound argumentative powers, with a readiness and facility of grasping at proper conclusions, founded on the various hypothesis, whether advanced by himself or borrowed from the statements of others. Still, entertaining, as we do, the conviction, that the language in which an abstruse scientific subject should be treated ought to be as simple and as devoid of obscurity as possible, in order to relieve the mental faculties from all unnecessary fatigue and unreasonable exertion, thus allowing them to devote their undivided attention to the subject before them, we must protest against that mode of composition in which inharmonious sentences, false punctuation, and unmeaning interpolations are the predominant characteristic. In conclusion, we would take the liberty of reminding the author, that a disproportionate amount of labour expended in extricating the most valuable ore from the vast and confused mass of *débris* with which it may be surrounded must sensibly deteriorate from its intrinsic value, and even render it an object of actual repugnance in the eyes of him who had so unremittingly toiled for its possession.

A Manual for Midwives and Monthly Nurses. Dublin: Fannin and Co. 1856. 12mo, pp. 156.

We deem it a duty to bring this little treatise under the notice of our professional brethren, especially such of them as are connected with lying-in hospitals, where female pupils receive instruction; as a work of this kind—short, simple, and explanatory—has been very much wanting in the English language. We do not expect it will find favour with all, but we feel assured it will with the majority. There are some few isolated individuals within and without the Profession who adopt the opinion of Sir Anthony Carlisle, that midwifery might be safely intrusted entirely and exclusively to female practitioners. This Manual will appear to them too limited and general. But these, happily for society, are a very small number. We say happily, because their ideas on this subject either proceed from utter ignorance of the difficulties, complications, and dangers inci-

dent to childbirth, or are professed to arise from extreme delicacy; but we fear it is the spurious, counterfeit delicacy of sensual minds, which cannot dissociate lascivious feelings from physical contact of any kind with a female.

It would be mere waste of time to stop and discuss whether it would or would not be advantageous to consign women in childbed to the exclusive care and management of females, however well educated. The almost unanimous voice of public opinion has, in this matter, confirmed the dictates of sober reason, by deciding this question in the negative[a]. Women had the practice of midwifery entirely in their own hands for upwards of three thousand years; and though in this long succession some may have acquired considerable skill; yet the art itself never progressed; it remained nearly in *statu quo*, and any trivial improvement in it emanated from surgeons or physicians. It is only within the last one hundred and forty years —since it was rescued from female hands—that actual progress began to be made. Even the phenomena and circumstances attending upon purely natural labour were unknown, until within this period; whilst the greatly diminished mortality of women and children, under some of the more dangerous forms of parturition, proves, in the most convincing manner, how largely society has benefitted by the transference of this branch of the healing art to male practitioners.

There are numbers of the profession who so lightly estimate the capacity and judgment of any female attendant, that they would keep their knowledge as limited as possible, through fear of its being abused or misapplied; and they, perhaps, will condemn any such attempt as this to enlighten them. But a perseverance in this course is calculated, we think, to insure the evil that is apprehended; as, from the want of any proper, regular text-book, the more intelligent among these women will study from some of the ordinary treatises upon midwifery,—than which the manual before us is in every way far better

[a] A small volume has been just placed in our hands, entitled "Hints to Husbands," the object of which is to decry male practitioners in midwifery. It is a mere tirade, however, against "man midwifery," written in a style of extreme coarseness, and destitute alike of sound reason, or any valid argument. In the author's estimation, a digital examination, to ascertain the presenting part of the fœtus, amounts almost to criminal intercourse! The approach and contact of the accoucheur he regards as lewdness and impurity concealed under a specious name; and he will not believe but that the doctor must have the venereal appetite excited by his ministration to the poor suffering parturient woman!! With a man holding such extravagant, unnatural ideas, it is folly to attempt to reason. To act consistently with these views, every man should have a harem for his wife, and keep no male attendants except such as are eunuchs.

adapted to their capacities and wants. We are not sure, however, but that it would answer its object better, if it were still more simple and elementary than it is.

We were not a little surprised at the statement of Mr. Guthrie (of London), before a Select Committee of the House of Commons in 1854, "that there was no instruction given to midwives in England." We may congratulate ourselves on having a better state of things in this country. For the last seventy or eighty years the Rotundo Lying-in Hospital, as is very well known, has been sending out annually numbers of women carefully instructed as "ladies' nursetenders," and, in a restricted sense, also as "midwives." Of late years the example of this hospital has been followed by some of the others in this city. The women so trained occupy what we believe to be the true position of a female attendant in midwifery practice, and in this position their great usefulness is felt and acknowledged, both by patients and doctors. It is only by a regular course of instruction that their minds can be divested of the innumerable prejudices and hurtful practices relating to midwifery, everywhere prevalent amongst the vulgar, and that sound principles can be put in their place. They have to be taught what they are *not to do*, no less emphatically than what they are to do: the *negative* instruction being of nearly equal importance with the *positive*. It is only by such a course as this that they can be fitted to discharge aright the duties that will devolve upon them. Now in the Manual before us will be found a valuable auxiliary to this practical instruction. In it, the author tells us, "he has endeavoured to teach as much as a midwife in Great Britain need know, considering the limitation of her practice, without giving an amount of information which must lead to mischief, by tempting her to interfere in cases for which she is not competent." It gives plain directions for the management of natural labour and of ordinary convalescence; treats cursorily of the other forms of parturition; and details the various subordinate duties and attentions required of the nursetender. At the same time the author takes care to point out in all cases the symptoms which betoken danger and demand the superior skill and judgment of the accoucheur. It gives, in short, all the information suitable to the capacity of these women, or which they can safely put into practice; whilst it "buoys the channel," and teaches them to know when a case is going beyond their skill, and becoming dangerous to mother or child; but, as before hinted, we think the author in his instructions has almost exceeded the capacity of those for whom he writes. Very full and explicit directions are given respect-

ing all those minor offices and services which a "monthly nurse" has to discharge, and upon the due performance of which much of the patient's comfort and safety will depend. Some useful receipts for making foods and drinks for invalids are also introduced; and very excellent maxims given for regulating the conduct and conversation of the nurse in the sick-room. A copious index concludes the work, and adds very much to its utility.

Although this work is anonymous, we think there can be little doubt as to its authorship. The style of the book—its being dated from Stephen's-green, in this city—and the classification of labours followed in its pages—all point to one whose extensive writings on obstetric medicine have gained him a well deserved fame.

Pharmacopœa Norvegica. Regia auctoritate edita. Christianiæ: Typis Brögger & Christie. 1854. Large 8vo, pp. 202.

The Norwegian Pharmacopœia. Published by royal authority.

Betænkning og Forslag til Grundsætninger, hvorefter en ny Medicinaltaxt antages at burde forfattes. 8vo, pp. 40.

Suggestion and Examination of the Principles on which it is considered that a new Medical Tariff ought to be prepared.

The first of the works above quoted is a neat, compact, and well-printed volume, brought out in a style highly creditable to the Norwegian publishers. On looking through its pages we are first struck by the peculiar arrangement of its contents, the articles of the Materia Medica and the Preparations not being separated—as they are, so far as we know, in all other similar publications—but arranged in one series, in alphabetical order. To this probably no objection can be made, and the plan would admit of ready reference, but that the substances derived from the vegetable kingdom are arranged, according to the parts which happen to be officinal, under the terms Herba, Flores, Radix, &c., which is calculated to create a difficulty in this respect to those who may not be well acquainted with the parts of the several plants in most ordinary use. The omission of any tests for adulteration is the more remarkable, as the solubility of the salts in water, the composition, both atomic and per-cental, of the several chemical preparations, the symbols, the specific gravities of the fluids, the boiling points of many of the latter, the saturating power of most of the acids, &c.,

are given throughout. Of the more active medicines, the medium and dangerous doses are also stated—for example: Of acetate of morphia, "dosis media octava-quarta ($\frac{1}{8}$–$\frac{1}{4}$) grani pars; periculosa granum unum (1)." The preparations, generally speaking, are very compound; the names are also compound; some of them are singular, and rather quackish, as, for example, the "Elixir Antarthriticum." The Electuarium Theriaca is nearly as compound as the old Mithridate, containing twelve articles. There are no tinctures, so called; instead of them, we have "essences," which are very strong tinctures. A great number of almost inert substances are still retained—e. g., Verbascum thapsus, Alisma plantago, Tanacetum vulgare, Hypericum perforatum, Geum urbanum.

The Pharmacopœia is published in the Latin language. The compilers give the following reasons for not following the example of the editors of many Pharmacopœias,—for example, the French; and the more recent editions of the Edinburgh; the Wurtemberg, of 1847; the Dublin, of 1850—which are published in the vernacular languages of the several countries to which they belong; the Greek Pharmacopœia, and that of the United States of America, which are written in both the Latin and the vernacular tongues:—First, because the Latin language is sufficiently understood by all the physicians and pharmacopolists of Norway; secondly, because ideas can in it be more briefly, clearly, and distinctly expressed; thirdly, in order to prevent the illegal practice of medicine; and, fourthly, because it is to be hoped that the work, when written in Latin, will be reviewed outside Scandinavia—a matter of importance in reference to the next edition, and which could scarcely happen if it were published in the Norwegian language ("si esset Norvegica lingua elaboratum"). The latter reason will, we should hope, daily lose its force with the advance of intercourse between the several nations of the world.

The second work quoted at the head of this article sets before us the principles on which the Norwegian medicinal tariff, noticed in our last Number, were drawn up. These are considered under the heads of the proper per-centage to be added to the cost price of the several articles; secondly, of the value of labour in the laboratory; thirdly, of the allowance to be made for the loss sustained in powdering, drying salts, &c.; fourthly, of compensation for labour, and for the wear and tear of apparatus in pounding and pulverizing; fifthly, of special rules for calculating the value of certain preparations; with two or three additional sections, containing further details.

Digestion and its Derangements. The Principles of Rational Medicine applied to Disorders of the Alimentary Canal. By Thomas K. Chambers, M.D., F.R.C.P., Physician to St. Mary's Hospital, &c. London: Churchill. 1856. Post 8vo, pp. 552.

It can scarcely escape the notice of a diligent observer that medical book-writing, like the visitation of certain periodic diseases, is liable to epidemics. Some organ of the human frame has perchance suffered a temporary obscuration from public view, and lo! a host of authors, with laudable zeal, rushes forward to rescue it from oblivion. Diseases of the stomach appear now somewhat in this position. While the late lamented Dr. Prout occupied the field with his incomparable work on Stomach and Renal Diseases, all hope of successful rivalry was vain, but, since his death, this viscus has ceased to be represented. It is probable that thoughts of this kind presented themselves simultaneously to several writers, for within a very short period we have had before us works upon affections of the stomach by Handfield Jones, Budd, Brinton, and now by our present author. Whether this be the cause or not of so many "Richmonds in the field," it is not for us to find fault with the result. When different minds are occupied with the same subject, it is scarcely possible but that it must be viewed in different aspects, and either new facts elicited, or old ones placed in novel combinations.

The organ which we are at present considering admits of being regarded in various lights, and it is singular that the charge of sameness is not one which can justly be brought against the publications of the authors above mentioned. One of these takes his scalpel and microscope, and with laborious industry analyzes the post-mortem changes in one hundred consecutive cases, not setting to his task in the rapid manner in which such things are attempted, but slowly and skilfully studying the deviations from the natural state in the several textural components of this viscus, many of these so minute as to elude the unassisted vision. The second is a sound practical physician, a symptomatologist, who, *plume a la main*, sketches from the bedside, portraits of the most characteristic traits which distinguish stomach affections. The third ranges the spacious field of comparative anatomy, traces the slow advance in structure of the digestive organs, from a state of simple imbibition to their final and complex development in man, noting how each superadded portion, according as the scale of perfection in the animal rises, is beautifully adapted to some

new want or peculiar vital process. Our present author views the subject still differently from the other writers, and perhaps the principal object with him is to obtain a rational basis for the application of therapeutical remedies to gastric disorders. While we thus see the peculiar bent of mind in each publication, we are far from stating that the subject in any is incumbered with needless detail, or that favourite topics are too prominently viewed to the exclusion of others more useful. Each has his peculiar merit, as each flower has its peculiar flavour for the bee. Like that useful insect, let us content ourselves in hiving from each what is of most value.

The volume now before us for consideration is divided into two parts: the first of these is a physiological abstract of the leading facts and theories of digestion, in which the author disclaims the pretension of original research, and seeks rather "to join the *disjecta membra* of recent observations on the subject of digestion into a connected sketch." The second, in which "he draws from the life only," embraces the pathology and treatment of the diseases of the digestive canal. The aim which he proposes to himself by this arrangement is to establish an intimate connexion between these two divisions, to keep a kind of *filum medicinale*, as Bacon expresses it, running through the texture of both, and weaving one into the other. Accordingly, we find the chapters and sections of the physiological portions tallying exactly with corresponding divisions of the pathological. Whether the time has come for such an union will be the subject of a difference of opinion. Physiology has of late years presented such fluctuations that practical men rather hesitate to accept a new theory, especially if it involves a departure from opinions which have so long guided physicians as to have become from habit almost a part of themselves. It is certainly not too much to expect that new discoveries in physiology should first stand the test of observation and time, so as to be verified or falsified, before they are presented as a basis for practice. Of how many plausible theories in physiology have we witnessed the rise and fall, though vaunted at the time as eternal truths; indeed, every new edition of works on this science contains a confutation of some hypothesis or other in its predecessor. For this reason, however much we may wish to argue from the man sound to the man sick, we must view with some degree of reserve attempts made to forcibly apply physiological analysis, at least *such as we understand it*, as a scientific picklock in every case for the detection of medical problems.

In thus commenting on what has lately become rather a

frequent habit, viz., commencing works on practical medicine with a periscope of the anatomy and physiology of the organ in question, we do not mean to deny the truth of the general principle that physiology is the best and most certain guide to pathology; but are we sure that what we believe to be the physiology of an organ, according to the actual state of our knowledge, is so irrefragable as to become an unerring basis for successful treatment? When a questionable theory is accepted as a guide to practice, the error may lead to serious results. In such a case—and it is no visionary one, but what may be shown to be of no unfrequent occurrence—the light said to be afforded by the theory becomes a delusion and a snare. As long as it remains an hypothesis, it at least does no harm; make it a foundation for practice, and its truth or falsehood becomes of more vital importance. Let us take an example at random from Dr. Chambers' book. A learned professor desires to know the effects of *sugar* upon the animal economy, and, after experiments performed on his own person, he concludes that it retards the destruction of bone, by restricting the elimination of the earthy phosphates from the system. Now, with due allowance for its probability, this interesting observation still requires further confirmation before it is accepted for an undoubted fact; but when, on the faith of this, it is recommended to give sugar, say, to a rickety child, in large quantities, as a therapeutic agent to contribute to the stability of his osseous system, then the question becomes a matter of more serious importance, and requires the test of clinical experience.

We are very far, indeed, from casting the slightest reflection on the author for the physiological *resumé* he has given us in the first part, and which is excellent. It shows an intimate acquaintance with the most recent observations of the best writers, both foreign and domestic, and there are few readers who will not derive profit from its attentive perusal. After discussing the physiology of those "parts of the organism concerned in digestion, which are common to the whole canal" —such as the epithelium, the bloodvessels and blood, the mucus, water, nerves, muscles, and media of solution—he proceeds to examine each part separately. He thus passes in review the mouth and œsophagus, the stomach, the large and small intestines, with the liver and pancreas. He then proceeds, in the last and most interesting chapter of this part of the volume, to examine the physiological action of substances submitted to absorption in the alimentary canal. This brings him to the discussion of the various kinds of food, and the behaviour of

each in the digestive organs. We shall dwell for a short time on this subject.

The first section of this chapter comprises what he calls "complementary foods"—viz., "those substances on which, without any other, experience shows that life may be, and is, carried on in the greater part of the animal creation, and which fill up the blanks occasioned by wear." These he considers in a twofold respect: some of them, as water, chloride of sodium, phosphates of soda and potash, the sulphates, carbonate of soda, &c., he regards as capable of immediate solution in water, and of absorption without change; others, such as oleaginous substances and sugar, though less obvious, can be reduced to the same category. When any of these substances are used in a quantity beyond what the exigencies of the system demand, they become then *extras*—such, for instance, as water and common salt—and they then appear to act in a new manner. The absorption of oleaginous substances, by percolating the cells, is a matter which can be ascertained by experiment.

"In an animal killed after an oily meal, many of the villi are seen studded over with pearly drops, glistening and refractive. These drops are seen to be oval, and to be just the shape that the epithelial cells would be, if distended into full bags. At the same time, milky (that is, oily) chyle appears in the lymphatic vessels, and an increased amount of fat in the portal blood: so that the passage of oil through the coat of the cell into its interior, and backwards into the lymphatics and bloodvessels, is brought under the cognizance of the eye."

The question which hence arises is, whether they pass unchanged through the membrane or not. The probability remains on the side that they pass directly through. However, two theories have been proposed, which consider that they are changed, but allow the change to be very rapid and transient: one is, that fat is first saponified by an alkali, which union is instantly broken after entrance into the lymphatics; the other, that the oil becomes resolved into an acid and base, which undergo a similarly rapid reunion.

Dr. Chambers next proceeds to show why sufficient cause exists for the importance of fatty aliment as complementary food, such as the system cannot do without.

"It is a *necessary* constituent of brain and nerve," and thus "forms a component part of the prime material means of communication between mind and matter."

This is an ascription of high importance to this substance, and contradicts the opinion of John Hunter, "that fat was no

part of the animal body;" and that of Liebig, that it was mere "fuel, and not building material for the system." We would submit to the author whether, in another place, he does not disparage his own doctrine:—

"Organic substances," he states, "may be ranked according to the degree of physical life they are capable of being endowed with. Thus—*Fibrin alone* is capable of entering into a *direct* intercourse with mind, of being the immediate agent of the will in voluntary motion. *Albumen* may be the recipient and retainer of life, as in the ovum and in plants, but is incapable of serving the soul by moving in obedience to it. *Fat* can do neither the one nor the other."

It appears to us that the substance which enters so largely into the structure of the great material organ of the mind does not deserve so low an estimation as is given to it in the latter sentence: and in apportioning to each its psychological importance, the fibrin which obeys the will should be, one would suppose, inferior to the nerve the fatty messenger which carries the behest from the brain the fatty organ which originates it. But in truth we regard such attempts at determining the relative value of proximate substances, in a mental point of view, as useless speculations. We know so little of the connexion of mind with matter, that any conjectures on this subject can only lead us astray.

In showing the necessity that exists in the system for oily food, the author takes the opportunity of correcting an error of Liebig, "that oily foods are an object of disgust to nations of warm climates." In this remark he has been anticipated by the late Dr. Graves. This acute reasoner, at an early period, saw the weak points of Liebig's hypothesis of heat, and, in the graphic style so peculiar to him, pointed out some of the pathological absurdities to which, when too much strained, it would give rise. According to Liebig, the necessity of using fat as a respiratory aliment is an instinct, which is to be measured by geographical lines, and changes of season. "The semi-putrid fat and blubber of whales agree," says Graves, "with the stomach of the Laplander as well in the heat of summer as in winter." "A Bengal tiger or Cape hyena requires quite as abundant rations as any of the Arctic carnivora; and as to the vultures of Hindostan and Persia, where on earth, in air, or in water, can be found such gluttons?"[a] If the necessity for fatty aliment was to be decided by the relative distance from the Equator or the Arctic regions, the amount of

[a] Graves' Clinical Lectures, by Neligan, vol. i. p. 30.

oily element in the human milk would not be constant in all latitudes and in all seasons of the year.

The next division of *complementary* foods is of those "capable of absorption only after previous change by the digestive juice," and in this he places starch and albumen. Starch, he states, cannot be absorbed as starch by the alimentary canal; it must cease to be starch before it can be taken up, either raw or broken by boiling. The proof which is afforded of this seems to be—that it constantly passes in an unconverted state through the bowels, and is detected by the microscope in the stools. This certainly proves that in certain states of the system it is not digested; but it may be questioned whether it does not prove too much. The secretions of the salivary glands have been shown to be capable of converting starch into sugar; and the point to be determined is, whether they are sufficient to convert the whole amount into that substance, or whether it undergoes other changes. The author very justly draws attention to the necessity which exists for rupturing by heat the investing membrane of cellulose, which confines the starch cell, and is insoluble and indigestible. We recollect in the potato disease, which prevailed in this country in 1846, that the starch envelope in the tubers, though exposed to continued boiling, remained unchanged, and the lower part of the bowels of those peasants who were obliged to live on the diseased potato, without other food, became so mechanically distended, that they were totally paralyzed, causing intolerable pain, retention of urine, and a deceitful diarrhœa, the liquid discharges making way through the solid mass, so that the patient could only be relieved by scooping out of the rectum the solid contents.

Dr. Chambers makes some valuable observations about the best mode of cooking the same valuable esculent, which will, we doubt not, be appreciated in this land of potatoes:—

"Boil or roast them," he says, "but do not fry, toast, or bake them; if you do, you dry up the starch into a hard, half-charcoally mass, which, except in most powerful stomachs, must act as a foreign body."

It is a fact well known in this country, that the best way to stay hunger, in a pure potato feeder, is to give him his root *with a bone in it*, that is—with a central nucleus in a parboiled state; this seems to afford due occupation to the digestive juices, until the time for the next meal comes round.

A valuable caution is given, arising from the fact that admixture with saliva is necessary for the conversion of starch

into sugar, viz., to masticate starchy food, in particular, well, and not to bolt it unchewed. This both assists the mechanical division and the chemical solution. Hence, when starch is used in solution, as in arrow-root, sago, and such like farinaceous substances, the salivary glands are not called on to throw forth their secretion, and the mass remains unchanged till it meets the pancreatic fluid in the duodenum. The author does not seem to set much value on this kind of food in typhus fever and other acute diseases; the buccal glands in this state are unsecreting, and it is probable that the pancreatic are in a similar condition; he does not, therefore, believe that those kinds of aliment, so universally given, "feed fevers;" and the only merit he yields them is as sheathers of the irritated alimentary canal from the contact of unhealthy matter. We believe, from experience, that this is but a slight description of their utility in these diseases.

Albumen and albuminized substances are most easily assimilated in the healthy state of the digestive organs, and the author gives some useful hints as to the best ways of cooking such aliments, which it would not be amiss for M. Soyer to peruse. He notices an error which is very commonly broached, viz., that the value of nitrogenous food is to be estimated by the amount of nitrogen it contains; he shows that a certain combination of the principles is also necessary, and—

> "We may feel sure that such diet will be most suitable which contains the constituents of the body as nearly as possible in the proportions and combinations required by the body to be nourished."

Dr. Chambers is a warm advocate for brown meat for persons whose muscular system is subjected to the waste arising from hard exercise, and he contrasts the anemic appearance of the Walloon miners with the florid aspect of a Yorkshire collier, luxuriating on his two hearty meals of flesh per diem. Without disputing this, or the plethoric appearance of butchers, who naturally partake much of such food, we may be permitted to state—that in the palmy days of the Irish potato there was no finer peasantry under the sun than the Irish, many of whom could only partake of animal food by a stretch of the imagination, like the Barmecide of the Arabian tale. While, then, we give all due merit to "the thews and sinews" of beef-eaters, we must dissent from the opinion that muscular power and mental energy go always together, and that the first is mostly the cause of the second. In the animal world, brute force is not always to be found united with sagacity. In our late war, nobody disputes the thews and sinews

of our soldiers, or the bad effects of not nourishing them with suitable provision; but it will scarcely be denied that in their leaders the cerebral element was deficient. No one will pretend that the great Napoleon was a man of bone and sinew, or that he used, like a Yorkshire miner, large quantities of animal food to enable him to get through his daily work of conquest; indeed, it is asserted by his private secretary, Bourrienne, that his diet during a campaign was most abstemious —a cup of coffee and a chicken. Yet, in his case, brains had the ascendant. We do not think that the fox-hunting country gentleman, who digests muscular fibre to any amount, is particularly noted for mental acuteness; and we believe, if we could get behind the scenes, that "this world is not a little ruled in peace and war" by the gentler sex, who certainly do not derive mental energy from muscular development.

The second great department of food is called by the author, *accessory* :—

"Accessories are those by whose use the moulting and renewing (i. e. the metamorphosis) of the organic structures are modified, so as best to accommodate themselves to required circumstances. These may be subdivided into those which *arrest*, and those which increase, metamorphosis; and each subdivision again, according to the various tissues upon which their action is mainly exercised. Thus, there are arresters and hasteners of metamorphosis of the bones, of blood globules, &c., though, in truth, we do not yet know enough to assign them all their places."

Again:—

"Not satisfied with bare necessaries, we find that our species chiefly, but animals also to a certain extent, are inclined by a *soi-disant* instinct to feed on a variety of articles, the use of which cannot be explained as above; they cannot be refound in the organism, or, without complete disorganization, be employed to build up the body. These may be considered as extra diet, or called Accessory Foods. It is scarcely necessary to say that by this expression are meant alcohol, flavouring ethers, essential oils, perhaps gelatine, tea, coffee, pepper, tobacco, spices, opium, &c., which are absolutely, in themselves, accessory. And there is also intended to be included the great excess above what is either to be found in our typical aliment or required to replace wear, which instinct leads us consume of some substances, absolutely speaking, complementary; such, for example, as water and salt.

"These are what man does not want, if the protracting his residence on earth be the sole object of his feeding. He could live without them, grow without them, think, after a fashion, without them—a baby does—would he be wise to try and imitate it?"

It will be observed that Dr. Chambers considers certain complementary foods become accessories when used beyond what the wants of the system require; and he begins the consideration of them by examining whether an excess of those two essential articles, *water* and *kitchen salt*, is likely to be injurious or beneficial. Since the universal use of water, as a remedial agent, has become so prevalent among the followers of Priesnitz, it is incumbent on the admirers of rational medicine to study carefully and scientifically the solvent power of this agent; and Dr. Böcker, of Bonn, furnishes us with a set of observations made on his own person. The result of these experiments may be condensed as follows:—

1. Water increases interstitial metamorphosis or destruction of tissue, and consequent loss of weight.

2. The decomposed tissue is excreted partly by urine, and partly in solid fæces.

3. The water found in the organism by metamorphosis of tissue is augmented, as well as the nitrogenous constituents of the excretions.

4. The excretion of carbon by the lungs is not affected, nor the quickness of pulse, nor of respiration.

5. A necessity for food, as exhibited in the sensation of hunger, keeps pace with the metamorphosis of tissue.

In estimating the value of the hydropathic treatment by these principles, the author observes, with much truth, that water is a powerful agent for good or harm. As a rapid instrument of changing tissue, of removing *effete* matter, it is beneficial when the matter lost can be quickly repaired by extra food. But many cannot bear an increase of food, and such persons under the excessive use of water rapidly waste away; others cannot obtain it, from poverty; and others again cannot get it of a suitable quality. This system is not adapted, therefore, for the poor, and has never gained repute with them; to such, "an extra allowance of water is an extravagance which can only occasionally be advised."

Among the substances which check metamorphosis the author places alcohol, wine, beer, sugar, tea, coffee, chocolate, &c. It would take us too far to follow him in his interesting observations on each of these; we cannot, however, altogether pass over his opinions on alcohol as a dietetic agent, especially as they coincide with those advocated in this Journal in a former review of some prize essays on "Temperance and Total Abstinence[a]." He protests against the doctrine, that the

[a] New Series, vol. x. p. 150.

majority are bound in any way to deny themselves a source of moderate pleasure because the minority abuse it; and hints that where, as in Asia Minor and Arabia, national abstinence is observed, national decay is likely to be accelerated. From the experiments of Dr. Böcker he concludes, that alcohol diminishes the excretion both of the solid and fluid constituents of the urine; that it does not increase the cutaneous perspiration or the fæces; that it diminishes not only the absolute quantity of carbonic acid exhaled by the lungs, but also the relative proportion of it in the products of respiration; lastly, that it does not effect the excretion of water to any important extent. "What, then, is the true use of that alcohol which all acknowledge to be instinctively liked?" He believes that it exerts a defensive power, allowing, without damage, a certain amount of extra work to be done by the system; using certainly the substance of the body for a time, but enabling it to be replaced with interest afterwards. A still more useful effect is to be found in its power as a prophylactic against the destructive energies of the mind. In the chapter on regimen, at the close of the work, he discusses the employment of alcoholic drinks in disease, and makes many just and sensible remarks on the assistance this agent affords the system in the failing powers of old age, or the debilitating pressure of chronic disease. He successfully combats the objections raised against it as being a merely temporary indulgence, and that moderate indulgence tends to abuse. While thus defending the moderate use, he is not insensible to the effects of it when used, as a daily habit, in excess; "the blood is less vitalized, is anemic, it retains too much of the *effete* matter, and is deficient in new active globules." It is, therefore, essential, for the moderate user not to abuse the privilege, or he does it at his peril.

We have lingered so long upon the interesting subject of diet, that we must pass very quickly over the second book, to the majority of persons, perhaps, the most instructive. After an introductory chapter on health and disease, he considers—first, the morbid "changes in the parts of the organism concerned in digestion, which are common to the whole canal;" and then each part specifically. In his description of morbid states of the œsophagus, he holds that the fluid which is ejected, under the name of "water brash," does not come from the stomach, but from the glands at the bottom of the œsophagus. His reasons are, that it is alkaline, not acid, that it is like saliva in its microscopic appearance, and contains the sulpho-cyanide of potassium, like that fluid. He explains its detention in the œsophagus by constriction, preventing its descent into the

stomach, but allowing easy regurgitation. For the relief of this, among other remedies, he suggests bismuth, and explains its failure by the smallness of the ordinary dose,—in some cases half a drachm, or even a drachm, may be given without danger, and frequently with the best results.

In his description of morbid states of the stomach of an *acute* character, the author adopts the German division into pure gastritis and catarrh, the former of which he limits to the effects of corrosive poisons or boiling water, very rarely, indeed, existing in the idiopathic form; the second is what is more generally known in this country as gastritis, acute or subacute, or, more recently, gastric fever. To our ears the old expression is so familiar, that the name of catarrh rather grates on them. Still, the terms of both are more scientific; true gastritis constituting an inflammation of the whole substance of the organ; while catarrhal inflammation is limited to its surface. Rokitansky describes the latter as consisting of three marked features:—1. Distention of the capillaries, producing a slaty discoloration of the mucous membrane; 2. Copious secretion of a stone-coloured, glassy pituita; 3. Thickening and induration of the mucous membrane in several degrees. The name is evidently derived from similar inflammatory affections of the mucous membranes of other parts, such as the bronchial tubes, the conjunctiva, &c. Unfortunately, with us, popular usage attributes a lighter character to it. The French call it "embarras gastrique." "There is a great excess of epithelium on the surface of the mucous membrane," and the quantities of bile in the diarrhœa of it have acquired for the disorder the popular name of "bilious attack;" when the fever is high, it obtains the name of gastric fever, and all the symptoms become more intense. Dr. Jones in his work remarks, that while catarrh of the bladder, or of the bronchi, produces pus corpuscles, this never occurs in the gastric cavity. In his remarks on the treatment of this common and important affection we think that Dr. Chambers is too brief; the whole treatment is disposed of in little more than a page; and rest and low diet are his chief resources. Yet in the severer forms of the ailment—for the milder require less care—the remarkable benefit derived from mercurials with opium, and local bleeding, cannot have escaped the notice of the attentive practitioner. There is little use in trying purgatives, for they are rejected, and hence it is that repeated enemata are of such value. In some extreme cases the administration of nutritive enemata is required, when chicken broth is rejected by vomiting. Blisters also, dressed with morphia or other sedatives, are useful. In some cases

ice has been of great benefit; in fact, few diseases test the skill of the practitioner, at times, more than acute attacks of the stomach.

Of the chronic affections, "mucous flux" stands at the head, and is applied to those conditions which tend to grow worse of themselves rather than get well. This excessive secretion of mucus does not necessarily arise from acute catarrh; it is not caused by excess in drinking; and it is frequently associated with a sympathetic increase of secretion in other mucous membranes. Dr. Chambers gives in detail the symptoms of this disorder. He remarks that the "sarcina ventriculi" is often found in the mucus in large quantities, and also the round worm. Of the former he states:—

"It was at one time thought that the sarcina was a cause rather than a consequence of the disorder. But I think its position, when detected *in situ*, is a sufficient proof to the contrary. If it excited the flow of mucus, it would surely be buried in, or at least attached to the membrane, like the itch insect in the skin, or the cryptogamous spores in ringworm. But such is not the case, for it is always found, as far as I can ascertain, lying quite in the external layer of mucus, and never amongst the glands. In this position it can have no influence over the mucous membrane, and I think proves itself to be, not a disease, but the accidental parasite of a disease."

Before concluding this notice, we would point out one or two verbal oversights, as they appear to us, which have escaped the author in the hurry of composition. One is where he speaks of granular liver, which, he says, by reason of its *hardness* receives from the Greek the title of "cirrhosis." The term (originally, we believe, used by Laennec) is derived from κιῤῥος, *tawny*, and refers to the colour of the organ, and not its hardness.

The other is his explanation of the term "mamillation," "so called from the lumpy islands which rise up on the surface of the stomach, like *mammæ* (they are not very like)." The term becomes more apposite when we derive it from the diminutive mamilla, a little teat or nipple, to which the likeness is more complete.

In bringing our remarks to a close, we feel that we have not done justice to the second part of Dr. Chambers' work, in not giving a more detailed account, especially of his remarks on treatment, which are generally excellent. But we hope we have said enough to show our readers that this is no common publication, to be taken up and thrown aside, but the result of deep study and patient investigation. The author has travelled step by step through the intestinal canal, assigning to each part,

where possible, its definite symptoms and treatment. We hail with pleasure attempts like his, mindful of the confusion which has long prevailed in the distinctions of stomach disease. No person can rise from the perusal of his scientific book without a feeling of deep and deserved respect for the accomplished author; of whom we had, on a previous occasion[a], to speak in equally high terms, for writing the most complete and perfect work in English medical literature on "Corpulence."

A Practical Treatise on Vesicular Hydatids of the Uterus; comprising a General View of their Etiology, Pathology, Semeiology, Prognosis, and Treatment. By William Henry Ashley, M.D. London: Baillière. 1856. 8vo, pp. 109.

The title of this book very fairly describes its contents. Its author has evidently studied the subject well, and in his mode of treating it evinces much research. Under the various heads of "pathological chemistry," "etiology," "pathogeny," "semeiology," "prognosis," and "treatment," he has brought together nearly all the information we possess relative to this disease. As there is nothing original, or absolutely new in the remarks upon each of these divisions of the subject, we need not stop to comment upon or analyze them in regular order.

There are three points of especial interest in connexion with the subject of uterine hydatids. The first of these is, their pathological nature;—are they true hydatids—entozoa—or are they merely a perverted growth? The author's opinion on this point is not very clearly stated, but the general tenor of his remarks seems to be opposed to the parasitic nature of these productions. In the title-page he employs the designation "vesicular hydatids," and at page 4 he defines this term as meaning "ento-parasitic independent entities, quite detached from the structures in which they occur, and endowed with animalcular life." Nevertheless, we find him using the following language:—

> "It has been maintained, by some authors, that uterine vesicular hydatids have an independent existence, are organized beings, and that, on careful examination, the entozoon—*echinococcus*—may be discovered: however this may be, there is less difficulty in accounting for the entrance of the germs of the entozoa into the cavity of the uterus, than to give a satisfactory explanation of the presence of the *distoma* in the gall-bladder of the human subject."

[a] New Series, vol. xi. p. 182.

"Although some few instances of uterine acephalo-cysts are found recorded, such must be regarded as highly exceptional. Of late years pathologists have described uterine vesicular growths as simple attached cysts."

Elsewhere the author speaks of "pseudo-vesicular hydatids," which he describes as "simple attached cysts, without animalcular life, partially or entirely in contact with adjacent tissues, and deriving from them nutriment and means of growth." With all deference, we suggest that this would have been a more appropriate designation for the disease in question than the one he has chosen. Our own experience leads us to reject the notion of the animalcular nature of uterine hydatids, and to regard them as being merely simple attached cysts distended with an aqueous or serous fluid. Mettenheimer has given a very clear account of their mode of growth, and of their minute anatomical structure. To his paper on this subject (which will be found in Müller's Archiv, 1850, H. v.), Dr. Ashley makes no allusion.

A second point of considerable interest, as well forensic as pathological, is the degree of dependence in which uterine hydatids stand to conception. A host of distinguished authorities could be cited in support of their being invariably a consequence of impregnation; whilst on the other side of the question may be ranked Sir Charles M. Clarke, Drs. Blundel, Gardien, Kennedy, and Ashwell. Of a large number of cases of uterine hydatids, that have fallen under our own observation, the disease was, in every instance, traceable to pregnancy, and, furthermore, had its seat in the ovum. Nevertheless, we do not dissent from the following just remarks of Dr. Ashley:—

"It might appear by the conflicting opinions that have been advanced upon this subject, that the question, are they the product of conception? still remains *sub judice;* but enough has been adduced to satisfy the mind of every candid inquirer, that this affection is not so enigmatical as some authorities would have us suppose; and that, although these abnormal growths are found generally to coexist with the puerperal (?) state, yet it has been indisputably proved, that a depraved condition of the lining membrane of the uterus will, under certain circumstances, have the power of originating the affection, *sine copulâ maris;* it must be admitted, however, that this latter condition is highly exceptional."

It is a very well-established fact, that even a nulliparous uterus will, in certain cases, secrete a membrane very closely resembling the decidua; and we can easily suppose this membrane to be the seat of hydatid growths. There are, no doubt, some difficulties in the way of this explanation, but yet it is

the most plausible one by which to reconcile the discrepant statements of authors on this question.

The third point of interest, to which we have alluded, is the semeiology of the disease. On this part of the subject Dr. Ashley supplies us with a vast deal of information. As the symptoms of uterine hydatids most frequently simulate those of utero-gestation, he has laid down a number of diagnostic marks to aid in distinguishing the former from the latter. The first symptom he mentions, as indicating the existence of hydatids, is the absence of the placentary murmur or uterine souffle, as well as the pulsation of the fœtal heart. At best this would be only a negative sign, and therefore possessed of but little value, even supposing the statement of the author, with respect to it, were correct. That the cardiac sounds of the fœtus should be wanting is nothing more than we would expect; but it is not so of the placental sound,—it, on the contrary, may be present, and possess its normal characters, plain and distinct, where not a trace of an embryo, or of healthy placental structure, exists! Very recently a case of uterine hydatids was under our care, illustrating this fact. The patient was, as she supposed, four months pregnant; but the uterine tumour was larger than usual at this period, for a month previously the mammary and gastric sympathies of pregnancy had disappeared, and there were occasional discharges of blood and reddish water from the vagina; a very characteristic placental souffle was heard in the left iliac region, but no fœtal pulsation, or fœtal movements, were at any time audible. Soon after this period the uterus expelled a quantity of hydatids, containing no trace of an embryo, and merely some indistinct vestiges of a structure resembling that of the placenta. In our estimation, then, the presence of a *bruit placentaire*, no matter how well marked, is no proof that the case is not one of hydatids. Whilst speaking of this sound we would here wish to correct an erroneous, though very prevalent notion, that it is a conclusive evidence of normal gestation. A true *placental* murmur is, no doubt, unimpeachable evidence of the existence of pregnancy; but if this murmur can be so closely simulated by other sounds as to be undistinguishable from them, its value, as a diagnostic mark, is next to nothing.

As regards the treatment, Dr. Ashley advocates the induction of expellent actions of the uterus by the use of the sponge, lint, or douche, where we have ascertained the existence of hydatids, but does not seem to have any experience himself of this practice. Of various hemostatic agents which he mentions, he gives the first place to turpentine. In severe cases, he

tells us, it is better not to rely on *one* remedy, and accordingly he gives us some formulæ for our imitation, the first of which contains eight ingredients, viz.—turpentine, alum, gallic acid, tincture of hyoscyamus, spirit of chloroform, syrup of ginger, acacia mixture, and spearmint water!

Although this treatise does not convey the impression of having been written by one practically conversant with his subject, or who brings any original views to bear upon it, still it is unquestionably a comprehensive one, and will be found to contain a great deal of information, not supplied in any other single work with which we are acquainted.

Diseases of the Heart: their Pathology, Diagnosis, and Treatment. By W. O. MARKHAM, M.D., &c. London: Churchill. 1856. Post 8vo, pp. 346.

DR. MARKHAM, already favourably known to the profession by his excellent translation of Skoda's work on Auscultation, as well as by several valuable contributions to practical medicine in our periodical literature, has thought it well to add another treatise on Diseases of the Heart to the many modern text-books on this subject in the English language. The works of Latham, Stokes, and Bellingham, left little to be desired in the way of an additional monograph on this important branch of medicine; and their completeness must have been a great difficulty to an author anxious to gather laurels in the same field. Nevertheless, we gladly accept the volume now before us, and cordially recommend it to our readers. It is simple in its arrangement, combines clearness with conciseness in its details, and is written in a pure and elegant style.

The author's chief object has been to develop the present state of our knowledge with respect to the pathology and treatment of acute cardiac diseases; and in so doing he avoids entering on the discussion of questions which, while well suited for a didactic treatise, would only unnecessarily burthen a purely practical volume, which he intended this to be. The book includes an introductory chapter "on the pathology, diagnosis, and treatment of cardiac diseases;" an account of pericarditis in five chapters; of endocarditis in six chapters; a chapter on hypertrophy of the heart; and also one each on fatty diseases of the heart, on angina pectoris, on cyanosis, and on diseases of the aorta. We shall proceed to notice the several subjects consecutively.

In the first chapter we are presented with an account of the

pathology of pericarditis, chiefly with reference to its morbid anatomy; the changes which the serous membrane undergoes, and the nature and character of the effusions are well described, but nothing new is added to the information given in our text-books on the subject. The effects of exudations, whether solid or fluid, on the action of the heart are carefully noticed, and more stress laid on their influence than is usually ascribed to them. As respects pericardial adhesions, the author, after referring to the different opinions of authors as to the changes in the condition of the heart—hypertrophy or atrophy—which they occasion, says:—

"The discrepancies of authors on this subject may, perhaps, be, in part, explained by the following suggestions:—That their observations were made at different—earlier or later—periods of the existence of the adhesions; that not sufficient attention was paid to the nature of the adhesions—whether they were loose, or so intimate as to prevent all motion of the heart within the pericardium; whether they were between surfaces of the membrane not naturally opposite to each other[a]; or whether there coexisted exo-pericardial adhesions,—adhesions to the surrounding surfaces of the lungs, adhesions to the diaphragm, and to the soft and solid parts of the framework of the chest; all of which would manifestly produce greater interference with the heart's action than the union of the pericardial surfaces alone[b]. Moreover, we know that inflammation of the pericardium may leave the muscular tissue in very different conditions, as regards its integrity; perhaps unchanged, perhaps atrophied, perhaps softened and degenerated; and such altered conditions of its structure will necessarily modify the consequences, whatever they be, which result from pericardial adhesions. And then, again, with pericarditis is frequently associated endocarditis; and with endocarditis, diseases of the valves; and with diseases of the valves, hypertrophy and dilatation of the heart. A consideration of these various accidental circumstances, all or any of which may complicate the subject of pericardial adhesions, will explain, perhaps, to some extent, the discrepant opinions of authors respecting the consequences which result from such adhesions. Where the muscular structure of the heart is unaffected, and the other parts of the organ (with the excep-

[a] "We may readily understand how such kind of adhesions form when the heart is displaced from its natural position by serous effusions, and thus how the ordinary relations of the pericardial surfaces are lost; we know that partial adhesions will take place, even though a considerable amount of serum is present; and in such case, after the serum is absorbed, and the parts tend to regain their former relative positions, the adhesions necessarily, we must suppose, produce an unnatural drag upon the heart's movements."

[b] "Dr. T. K. Chambers shows in his 'Decennium Pathologicum,' that, in a large number of cases, death occurs at a much earlier age when the adhesions are universal than when they are only partial. 'The consequences of partial adhesion are much less rapidly fatal than of universal adhesion.'"

tion of the adhesions of its pericardial surfaces) are healthy, we may fairly, as a general rule, admit the opinion of Dr. Hope as correct, viz., that hypertrophy of the heart is the result of pericardial adhesions."

In the second chapter the causes of pericarditis are considered; these Dr. Markham believes may, in almost all cases, be readily traced, and if the inflammation be not caused by local injury, its origin is due to some general morbid condition of the system, asserting that "in no case can it be regarded as idiopathic." Now with this statement our experience does not permit us to agree, for we have seen unequivocal examples—few, it is true—of pure pericarditis, perfectly uncomplicated with rheumatic fever, occurring in young persons of healthy constitutions, produced by a severe wetting, or exposure to a cold chill, when the body was overheated; and we can, moreover, discover no sound pathological reason why the same cause which gives rise to an idiopathic pleuritis, or an idiopathic peritonitis, should not also give rise to an idiopathic pericarditis. In accordance with his views, then, the author adopts Dr. Ormerod's division of all cases of the disease under two heads:—1. Rheumatic pericarditis; 2. Non-rheumatic pericarditis.

In the third chapter we are presented with an account of the physical signs of pericarditis, and in the fourth with a review of the general symptoms; in his description of both the author has in view a typical case of rheumatic pericarditis, which has the defect of rendering his observations rather dogmatical, considering the very varying nature of the signs and symptoms which different cases of the disease present; nor do we find in them anything sufficiently novel to induce us to dwell on this part of the work.

The diagnosis and prognosis are shortly noticed in the fifth chapter.

The treatment of pericarditis is considered in the sixth chapter. Dr. Markham here again asserts his opinion, that the disease, except in consequence of traumatic injury, is never idiopathic; and although, as we have already said, we cannot accept this as a *universal* rule, we shall let him speak for himself, his views of treatment being essentially based on this doctrine:—

"Pericarditis is manifested either secondarily, as the result of some other disease present elsewhere in the body,—of purulent absorption, for instance; or as one of the local expressions of some general disorder of the system,—of its fluids or its solids,—as in the

case of rheumatic fever; or the inflammation is the immediate consequence of traumatic injury.

"It is of every importance to keep these distinctions in the origin of the disease clearly in view: unless they are properly recognised by us, we shall never arrive at a true and rational method of treating pericarditis. Excluding from consideration those cases of pericarditis which are the result of traumatic injuries, we find that we have to deal with disorders, in which diathesis plays a part; and, therefore, to attempt to treat them as simple local inflammations, and without reference to their particular diathetic character, is to treat them erroneously. Equally manifest is it, that no general directions of treatment can be prescribed, which shall be adapted to any given case: each demands a particular consideration—a consideration founded, in the first place, upon the cause or relation of the disease to other diseases; and secondly, upon the age, constitution, and condition in life of the patient. Such are the data upon which a rational treatment must be founded.

"It follows necessarily from this, that the treatment, which may be proper in one case, may be most unfitted for another case; and, therefore, that in different cases, most opposite forms and methods of treatment become the true and proper methods. To no other reason than this, namely, the want of a proper recognition of the peculiar characters of the disease, can we attribute the various and opposing modes of treating pericarditis, which have been loudly extolled here, and as loudly decried there. In this must we seek an explanation of the extraordinary discrepancies, which the history of the treatment of this disease furnishes us with.

"Pericarditis, let us recollect, is known to us in connexion with rheumatic fever, and it is known to us in connexion with Bright's disease of the kidney; but what rational being would pretend to apply the same treatment, indifferently, to the inflammation as associated with these two diseases? Broadly considered, the one is a disease of the strong and healthy; the other, a disease of the broken-down constitution. Treatment which might rescue the patient from death in the one case, would perchance destroy his life in the other. The truth is, as we have already said, that every case must be judged of by its individual features, by its relations to coexisting diseases, and by the bodily condition of the patient. The general principles, applicable to the treatment of inflammation, hold good here; but the peculiar circumstances affecting the case modify, and altogether regulate, their application. How can we speak, in a comprehensive manner, of a particular method of treating pericarditis, when we are speaking of a disease which presents itself, now under an acute form, in persons of the most healthy and robust constitutions; and then again, as an obscure and chronic malady, in the weak, worn out, shattered constitution?"

There is much truth in this; the exceptions which we hold do exist are so few, as not to affect the general application of the

principle here laid down; and we fully agree with the author, that in considering the treatment of the disease it is all-important for the practitioner to remember that there are essentially two classes of cases,—in the one of which the local inflammation, in other words the heart itself, demands the chief, if not the sole attention; while in the other the general diathesis, or condition of the system, on which the occurrence of the local disease depends, claims the principal notice, the remedies directed to the latter being of comparatively secondary importance. As regards bleeding in the treatment of pericarditis, the author advises due caution; but, nevertheless, recommends general bleeding in some cases,—a recommendation with which we do not agree, the result of the almost universal experience of the profession, in the present day, being adverse to its employment at all. Even local bleeding must be used with much caution; we, therefore, altogether accord with the judicious advice Dr. Markham gives in the following passages:—

"Under all circumstances, great caution is required in the subtraction (!) of blood, even when the inflammatory symptoms are violent: in pericarditis, the reaction of depression following upon the excitement is great, and it sets in early; indeed, it is just in those cases where the inflammation appears most violent in the first instance, that we should in particular watch for and expect the re-action of depression,—a depression, whose nature is such as sometimes unexpectedly to threaten the life of the patient. We must never forget, that an organ is involved in the inflammation, the integrity of whose functions is indispensable to life,—their cessation bringing instant death; and that one of the effects of the inflammation and its products is, to induce a paralyzed condition of the muscular structure of the heart.

"Moreover, it is certain that bleeding will not, in all cases, arrest the exudation; on the contrary, in certain states of the body, it appears even to hasten and increase the pouring out of it. There is another danger, also, which may possibly be incurred by over-bleeding. Endocarditis, as we have said, is very commonly associated with the pericarditis, and under such circumstances it would appear, that large bleedings, by promoting the tendency in the blood to the deposition of its fibrinous particles, increase the danger of permanent injury, to which the valves are exposed, through the deposition of fibrin upon them."

Mercury, moderately administered, is highly recommended; and opium strongly advocated,—the quantity to be given being regulated by the degree of pain, restlessness, and sleeplessness, existing. Our opinion, as to the efficacy of both these remedies, altogether agrees with that of the author, and we would only add, that in the administration of the latter great care

should be taken that it be not given in such small doses as might produce its stimulant action in the early stages of the disease. When the proper time comes, that is to say, when evidences of a weakness of the heart's action are manifested, the use of stimulants and cordials is demanded; and on their employment then the author makes some judicious observations.

In the six following chapters, as we have already indicated, endocarditis is considered. A very careful and accurate view is given in them of the pathology of the disease, especially of the changes of structure, and effects on the valves consequent thereon; the various forms of valvular disease, both as the result of acute inflammation and of chronic changes, are fully noticed,—the nature and causes of the sounds of the heart being described under this head, the views of Skoda, as might be expected from the author's antecedents, being adopted. In describing here the mode in which the impulse of the heart is produced, and its cause, Dr. Markham declares his belief in Gutbrod's theory, because, he says, no other hitherto propounded explains it so well: a very weak argument, truly, in its favour. As many of our readers are, doubtless, aware, this has been termed the *recoil* theory, the explanation of the heart's impulse being ascribed to a cause similar to that which produces the recoil in fire-arms when they are discharged; namely, that the escape of fluid through the orifices of the heart drives the apex in the opposite direction, and thus causes it to impinge against the parietes of the thorax. Now the objections to this theory are so numerous and self-evident, and have been so frequently put well before the profession, especially in Valentin's Physiology, that we shall not bring them forward here; indeed, we were much surprised to find Dr. Markham adopting a view which we believed to have become obsolete, except amongst the worshippers of that new Germanic school, which, apparently careless of absurdity, devotes itself chiefly to a search after novelty. The abnormal sounds or murmurs, both inorganic and organic, are very well described; their relative value noticed as aids to special diagnosis; and the wise caution inculcated, of their being always considered in connexion with the general symptoms by which they may be accompanied. The following important observations are so admirably condensed, that we present them to our readers as a specimen of the author's power in this respect, one of the best features of his style:—

"There are certain general rules which may be laid down, respecting the diagnosis of these endocardial murmurs, and these we will now describe. We find that endocardial murmurs are loudest

at those parts of the thoracic walls which are nearest to the points whence they take their origin; to this rule, however, there are exceptions, as in the case when the lungs, or some adventitious body, intervene between the heart and the thoracic walls, and so naturally diminish the force of the sounds. The murmurs correspond very closely, in time, to the systole and diastole of the heart; but their rhythm often has no correspondence with the healthy rhythm of the heart's sounds: one murmur may be lengthened, and the natural intervals of repose between the heart's sounds prolonged or shortened. And then, again, the natural duration of the sounds may be totally perverted; the diastolic, in certain cases, becoming the longer,—a very prolonged murmur,—and the systolic the shorter, so as to render the interval between them imperceptible. They are conveyed most readily in the direction of the current of the blood which produces them: a systolic aortic murmur, for example, extends more freely upwards along the aorta; a diastolic aortic murmur, most freely downwards, towards the ventricles: either of such murmurs may, however, be conveyed upwards and downwards at the same time. But though the murmurs pass most freely in particular directions, it is well to remember, that the vibrations, which excite the sounds, spread in all directions, and, therefore, in an opposite direction to the current of blood; so that murmurs, when intense, may pass even to a considerable distance from their seat of origin, in a direction contrary to the current of blood.

"The murmurs, again, may be heard simultaneously with the heart's healthy sounds, which are then modified in their characters; or they may entirely replace and supersede these sounds; or one of the heart's sounds may commence as a murmur and finish as a healthy sound. Organic murmurs, also, are persistent, not temporary, like the inorganic sort. To this rule, however, there are apparent exceptions; for instance, the cause producing the murmur is occasionally so slight, that, under ordinary circumstances, no murmur is excited, but the least hurrying of the heart's action at once reveals the defect. Cases are frequently met with, in which we suspect the existence of heart disease, but find no corroborating endocardial murmur, until the patient has been made to excite the heart's action, by hurrying up and down the room, or mounting a staircase: a fact well worthy of attention, in the particular instance of examining a person for a life insurance. In the latter stages of heart diseases, also, when the heart's actions are enfeebled, and its cavities distended and oppressed with the blood, which they are unable to propel onwards, murmurs, previously existing, very frequently cease to be heard."

Dr. Markham's observations on the treatment of endocarditis, and of valvular diseases, require no special notice from us; they are, for the most part, judicious, but present nothing sufficiently important, or new, to induce us to dwell upon them.

For the same reason we shall pass over the remaining chapters in the book, with the general statement, that the account

given of the diseases which we have already indicated as being therein noticed, although much condensed, is, we think, sufficiently full for the student and junior practitioner, for whose use chiefly it is evident the author intended his work, and to whom we can safely recommend it as a concise practical manual on diseases of the heart.

Cell Therapeutics. By William Addison, M.D., F.R.S. London: Churchill. 1856. 8vo, pp. 84.

In the present work, as stated in the Introduction, the author proposes to enter upon a consideration of "the phenomena of cure and reparation in connexion with the cell physiology; not simply the consideration of cure in mechanical injuries, but methods of reparation in blood distempers and organic disease"

We shall endeavour briefly to lay before our readers an abstract of the leading doctrines embodied in the pages of the work. The basis of the argument appears to be:—

That inflammation, which is a kind of new or preternatural cell-growth in the common vascular tissue, is the general agent of repair.

That the two forms which this cell-growth assumes are—granulations, or a vascular, and pus, or a deciduous form.

That granulation and suppuration, therefore, are invested with a *therapeutic office*, the attendant inflammation being merely a sign or signal of a change commencing in the coats of the bloodvessels, and, consequently, quite distinct from congestion, in which these structures undergo no morphological alteration.

That in the phenomena of inflammation we have an evidence of a sanative tendency—a manifestation of a *therapeutic design*, notwithstanding the occurrence of difficulties, in many instances insuperable, whereby a process intended as one of reparation may not only fail, but many even go on to become the cause of death.

The work commences with some general remarks on reparation, after which, in Chapter II., the author dilates upon the physiological doctrine of cells and cell-growths, and sundry matters thereunto relating, upon which, however, as offering nothing new, we shall not dwell. Blood distemper forms the subject of the next chapter; while the fourth is devoted to a consideration of the phenomena of inflammation:—

"When inflammation attacks the brain, liver, or kidney, the skin or the eye, &c., it does not issue in any new parenchymatous ele-

ments, but always in a common cell-growth, lymph, granulations, and pus; so that, whatever may be the difference in parenchymatous elements, there is a species of uniformity in the products of inflammation in the different organs; and, whatever may be the requirements of repair, there is a kind of uniformity also in the issues of the efforts made towards reparation."

The author looks upon an "idiopathic degeneration or decay of the parenchymatous substance of an organ" as the essence of all organic disease; and has devoted an entire chapter to a delineation of the distinctions between this parenchymatous element of different organs, and the vascular "connective" tissue which is the invariable seat of new cell-growth. The term 'connective tissue' appears to be employed throughout the work to designate what is more generally known as areolar (*olim* cellular) tissue.

Having adduced numerous examples from various affections in support of his views, the conclusions at which the author has arrived are thus announced:—

"First. That cell-growth in the common vascular tissue is the natural method of repair, which, like all other growths, may succeed or not, according to contingent circumstances. Regularity or conformity to natural growth and success entitle it to be called the process of repair, healthy inflammation, or *cell therapeutics*. Irregularities, exuberance, protractions, and failure, rank under the term unhealthy inflammation, and are placed in the class of diseases.

"Second. This new growth appears in two prominent forms, granulations and pus. The former, *united* to the texture from which it grows by new bloodvessels, repairs solutions of continuity by metamorphosis into connective tissue. The latter, a *deciduous* cell-growth, discharges sloughs, and, in virtue of the property of selective absorption, in the elementary cells, eliminates poisons from the blood. Vesicles, pustules, abscess, suppuration, ulceration, and fungosities, are varieties, and may denote irregularity of cell-growth."

In the course of his "reflections" in support of the above cited conclusions, he says:—

"The problem of cure seems to consist in selecting a medicine, or a surgical application, which shall prove remedial by stopping the abnormal cell-growth before producing an injurious influence upon any of the natural organs. If microscopical research lead to the conclusion, that all therapeutical operations are accomplished through the medium of a nucleated cell-growth, and if experience prove that mercury will check the progress of a preternatural cell-growth before producing salivation, surely we may endeavour to interpret the medical by the physiological fact. And if we accord to physiological cell-growth and 'nuclei' the property of selective

attraction or absorption, no reason has yet been shown why it should be denied to pathological cells and nuclei. Nor can any such reason be shown, if a physiological cell-growth becomes pathological without alteration of nature, simply by deficiency, protraction, and excess. On the other hand, the necessity for the exercise of medical and surgical skill and art, in all cases, is very apparent. And let us agree to rest the necessity upon the right basis. The most anxious care and watching is required, or befits a growth of the most tender, yet active nature,—an embryoniform cell-structure, which may arise in twenty-four hours, establish itself in the vascular tissue, acquire bloodvessels, absorb the surrounding texture, and bleed in two days; which is liable, from numerous circumstances, to irregularity, exuberance, or premature decay; which, if languishing, struggling with difficulties, or in deficiency, may be assisted by manual and medical art,—may be aroused by stimulants, and cherished by warmth, moisture, and soothing appliances. But which, if outstepping the therapeutical limit, must be, and is repelled by depletion and hostile interferences, or destroyed by caustics, poisons, and the knife. Future discussion must decide upon the merit of the views we have here put forth. In the meantime, the Cell Physiology, as at present established, though it places inflammation in a new aspect, nevertheless elucidates and confirms the principles of medical art."

Having, we think, sufficiently indicated the general drift of our author's reflections on the theory of reparation, we shall only add, with respect to the style of language in which they are presented, that in many places the application of his argument is deprived of its force by a cramped and almost elliptical mode of expression; while a perplexing vagueness of diction, in some passages, has served only to mystify what he wishes to elucidate.

The Microscope and its Revelations. By William B. Carpenter, M.D., F.R.S., F.G.S.; Examiner in Physiology and Comparative Anatomy in the University of London, &c. Illustrated by 345 Wood Engravings. London: Churchill. 1856. 8vo, pp. 778.

The name of Dr. Carpenter as a successful and popular writer has been for the last several years so intimately identified with medical scientific literature, as to convey a decided prestige in favour of any similar publication issuing from the press under his immediate auspices. To those thoroughly acquainted with his polished style of composition; his clear and systematic arrangement of facts; his happy deductions, so perspicuously drawn from premises at first view scarcely appear-

ing to admit of such a process; his ready and innate tact in reconciling principles seemingly most discordant and antagonistic; his peculiar turn of thought and reflection, adapting him most pre-eminently to that particular line of research to which he has so assiduously and continuously devoted himself,—it would be superfluous on our part to make any allusion to those causes by which he has so fairly achieved a wide-spread celebrity, and that amongst a class so notoriously fastidious in their tastes and critical in their judgment as those for whose intellectual acquirements he has catered with such untiring zeal and uninterrupted labour. Indeed, of Dr. Carpenter it may be said, with much truth, that he found the science of Physiology comparatively unfashioned, and in many instances incapable of ready and rational application to those principles of therapeutical considerations in which its chief value and importance essentially consist; and from the crude and often times ill-assorted materials that were offered to his hand, he has succeeded in constructing a work simple in its details, but remarkable alike for the fertility of thought and elegancē of design which pervade its entire execution. Still, however, as the great majority of his deductions has been based on microscopical investigations, it ceases to be a source of surprise that he should have directed his attention more particularly to the study of the instrument which he so constantly employed in the prosecution of his researches,—evolving its history from the first feeble attempts that were essayed for the purpose of penetrating more narrowly into the secrets of nature, and recording the numerous inventions that were successively introduced in order to increase its invaluable powers, with its gradual and progressive improvements, until it has at length attained that climax of perfection, so as to leave scarcely anything further to be added to the acknowledged excellence which it at present possesses. In this portion of his work the author has completely exhausted all that could possibly be advanced on the subject, omitting nothing which could be in the slightest degree explanatory; and, while entering into the minutest detail of the several and varied accessory implements which are essential to the practised and accomplished microscopist, he so gradually conducts the reader from what is unequivocally simple and easy of comprehension, to what is more complicated and difficult to be understood—the transition being accomplished by such unappreciable steps, that he can follow with scarcely a mental effort and with undiminished interest, the mazes of an historical inquiry, occupying upwards of 150 pages of this closely printed Manual. And, at the termina-

tion of his labour, what are the fruits that he may expect to glean as a recompense for the amount of study and devotion which he may have expended in a successful attempt to acquire a practical acquaintance with this fascinating instrument? Are the advantages to be derived of a character so decisive and enduring, as to be sufficient to repay him for hours imperceptibly spent in the contemplation of objects which the unaided mind can possibly form no conception of, but which to the initiated are ever displaying at each renewed gaze fresh beauties, additional attractions,—features capable of striking the senses with uninterrupted emotions of astonishment, wonder, and awe? To this inquiry we will not presume to offer a reply, but will allow Dr. Carpenter to answer the question in his own convincing language:—

"All the advantages that have been urged at various times, with so much sense and vigour, in favour of the study of natural history, apply with full force to microscopical inquiry. What better encouragement and direction can possibly be given to the exercise of the observing powers of a child, than to habituate him to the employment of this instrument upon the objects which immediately surround him, and then to teach him to search out novelties among those less immediately accessible? The more we limit the natural exercise of these powers, by the use of those methods of education which are generally considered to be specially advantageous for the development of the intellect,—the more we take him from fields and woods, from hills and moors, from river-side and sea-shore, and shut him up in close school-rooms and narrow play-grounds, limiting his attention to abstractions, and cutting him off even in his hours of sport from those sights and sounds of nature which seem to be the appointed food of the youthful spirit,—the more does it seem important that he should in some way be brought into contact with her, that he should have his thoughts sometimes turned from the pages of books to those of creation, from the teachings of man to those of God. Now if we attempt to give this direction to the thoughts and feelings in a merely didactic mode, it loses that spontaneousness which is one of its most valuable features. But if we place before the young a set of objects which can scarcely fail to excite their healthful curiosity, satisfying them only so far as to leave them still inquirers, and stimulating their interest from time to time, by the disclosure of such new wonders as arouse new feeling of delight, they come to look upon the pursuit as an ever fresh fountain of happiness and enjoyment, and to seek every opportunity of following it for themselves."

These are the remarks of a man of undoubted observation and experience, and, moreover, those of the accomplished physician, and, as such, should speak home to the heart of every

parent anxious to secure to his offspring the blessing of health, combined with a proper degree of mental recreation. Were these precepts even partially followed, what an incalculable diminution of suffering and disease would it effect in that vast amount which prevails in the present day! We, however, live in the age of so-called social progress, and, untaught by example, with a blind infatuation are led not to check, but encourage that unnatural precocity in the child, which can be purchased only at the expense of close confinement and still closer application, foolishly overlooking the penalty which must be paid hereafter—a penalty which will be wept for most assuredly when repentance and the power of retracing our steps are lost to us for ever.

Again, a little farther on, he thus continues:—

"It is not alone, however, as furnishing an attractive object of pursuit for the young—fitted at once to excite a wholesome taste for novelty, ever growing with what it feeds on; and to call forth the wholesome exercise of all those powers, both physical and mental, which can minister to its gratification—that natural-history studies in general, and microscopic inquiry in particular, are to be specially commended as a means of intellectual and moral discipline; for there is no capacity, however elevated, to which they do not furnish ample material for the exercise of all its best powers, no period of life which may not draw from them its purest pleasures. Even *to observe well* is not so easy a thing as some persons imagine. Some are too hasty, imagining that they can take in everything at a glance, and hence often forming very erroneous or imperfect notions, which may give an entirely wrong direction, not only to their own views, but to those of others, and may thus render necessary an amount of labour for the ultimate determination of the truth, many times as great as that which would have sufficed in the first instance, had the original observations been accurately made and faithfully recorded. Others again are too slow and hesitating, and fix their attention too much on detail, to be able to enter into the real significance of what may be presented to the vision. Although ignorance has doubtless much to do in producing both these faults, yet they both have their source in mental tendencies, which are not corrected by the mere acquisition of knowledge, and which are very inimical, not only to its fair reception, but also to the formation of a sound judgment upon any subject whatever. The habit of guarding against them, therefore, once acquired in regard to microscopic observation, will be of invaluable service in every walk of life."

In the correctness of the views thus advanced we have the most implicit faith, as it can hardly be denied that the prosecution of microscopical investigation, no matter what may be its subject, requires no ordinary amount of proper observation,

clear and strict reasoning, and a power of rapidly adapting our ideas to the phenomena which are submitted to our inspection. And should those faculties be in a state of abeyance, or should they exist only in a minor degree, it is but rational to suppose that, in the one instance, they will be called into action, where their assistance is so urgently demanded; or, in the other, strengthened, confirmed, and increased by continued exercise and habit.

Directing now our attention to the remarks on the management of the microscope, we shall find the author has been equally successful in graphically depicting the various modes necessary to be employed in order to attain a decided expertness in its use, and at the same time carefully alludes to all those circumstances which have a tendency to contribute to the production of those fallacious appearances so exceedingly liable to perplex, and sometimes absolutely to lead astray, the inexperienced observer. So exceedingly distinct, however, are his explanations on this point, that we consider it scarcely possible for any one who has carefully perused his observations on the subject to lapse into the error alluded to; and, in proof of what we assert, we shall quote his remarks on molecular action, which afford a tolerably exact impression of the manner in which he handles this particular section of the work:—

"Among the sources of fallacy by which the young microscopist is liable to be misled, one of the most curious is the molecular movement which is exhibited by the particles of nearly all bodies that are sufficiently finely divided when suspended in water or other fluids. This movement was first observed in the fine granular particles, which exist in great abundance in the contents of the pollen-grains of plants (sometimes termed the fovilla), and which are set free by crushing those grains; and it was imagined that they indicated the possession of some special vital endowment by these particles, analogous to that of the spermatozoa of animals. In the year 1827, however, it was announced by Dr. Robert Brown, that numerous other substances, organic and inorganic, when reduced to a state of equally minute division, exhibit a like movement, so that it cannot be regarded as indicative of any endowment peculiar to the fovilla-granules; and subsequent researches have shown that there is no exception to the rule that such motion takes place in the particles of all substances, though some require to be more finely divided, before they will exhibit it. Nothing is better adapted to show it, than a minute portion of gamboge, indigo, or carmine rubbed up with water; for the particles of these substances which are not dissolved, but only suspended, are of sufficiently large size to be easily distinguished with a magnifying power of 250

diameters, and are seen to be in perpetual locomotion. Their motion is chiefly of an oscillatory kind; but they also rotate backwards and forwards upon their axes, and they gradually change their place in the field of view. It may be observed, that the movement of the smallest particles is the most energetic, and that the largest are quite motionless, whilst those of intermediate size move, but with comparative inertness. The movement is not due (as some have imagined) to evaporation of the liquid; for it continues, without the least abatement of energy, in a drop of aqueous fluid that is completely surrounded by oil, and is therefore cut off from all possibility of vaporization; and it has been known to continue for many years in a small quantity of fluid enclosed between two glasses in an air-tight case. It is, however, greatly accelerated and rendered more energetic by heat; and this seems to show that it is due either directly to some calorical changes continually taking place in the fluid, or to some obscure chemical action between the solid particles and the fluid which is indirectly promoted by heat. It is curious that the closer the conformity between the specific gravity of the solid particles, and that of the liquid, the less minute need be that reduction in their size which is a necessary condition of their movement; and it is from this that the substances just named are so favourable for the exhibition of it. On the other hand, the particles of metals, which are from seven to twelve times as heavy as water, require to be reduced to a minuteness, many times greater than that of the particles of carmine or gamboge, before they become subject to this curious action. In any case in which the motions of very minute particles, of whatever kind, are in question, it is necessary to make allowance for this molecular movement; and the young microscopist will therefore do well to familiarize himself with its ordinary characters, by the careful observation of it in such cases as those just named, and in any others in which he may meet with it."

We have been induced to extract the entire of this passage, as it is a subject which should be constantly before the attention of the observer, as otherwise he may be drawn into statements completely at variance with existing facts; a circumstance which, above all others, has frequently been the cause of bringing this invaluable adjunct to medical research into unmerited ridicule and disrepute.

Many instances will necessarily occur in which it becomes an object of paramount importance to secure the preservation of rare but minute specimens of microscopic inquiry; and to accomplish this successfully, an operation, distinguished by the technical term "mounting," is occasionally a task of no ordinary difficulty, as the process to be adopted must, of course, be modified according to the nature of the structure whose permanency we are anxious to insure. Hence numerous means have

been resorted to or advocated, to all of which the author has directed attention,—at the same time taking care to explain the steps to be pursued in each, with the precautions necessary to be exercised to guard against failure and ultimate disappointment.

It is with feelings of the strongest reluctance that we feel ourselves constrained to pass over those sections devoted to the consideration of the "microscopic forms," as revealed in the several conditions of vegetable life; but, firmly resisting the temptation, admittedly strong within us, impelling us to indulge in some brief quotations for the purpose of indicating the tone and spirit which pervade this portion of the work, we must rest satisfied with referring the reader to the book itself, assuring him that he will derive not only profit and instruction from its perusal, but likewise a vast amount of positive amusement, and much to satisfy his curiosity, in a series of interesting details utterly undreamed of in the commonplace occurrences of every-day existence. A tolerably correct idea of what the microscope has the power of exhibiting to us in the minute organization of animal life, may be gathered from the following account of the tongue of the "gasteropod mollusk"—the common snail or slug—a tribe which we are accustomed to regard with feelings of loathing and disgust, ignorant, as the generality of mankind confessedly are, of the exquisite, but complex workmanship so lavishly expended in their structural mechanism, adapting them so admirably to that peculiar sphere of vitality which it is their destiny to fill—aye, and even to enjoy: for we firmly hold the opinion that no breathing thing, however low it may be in the scale of creation, but must experience its moments of pleasure and happiness, corresponding, of course, to that more humble position which they are fated to occupy.

"*Tongue of Gasteropod Mollusks.*—The organ which is commonly known under this designation is one of a very singular nature; and we should be altogether wrong in conceiving of it as having any likeness to that on which our ordinary ideas of such an organ are founded. For, instead of being a projecting body, lying in the cavity of the mouth, it is a tube that passes backwards and downwards beneath the mouth; its hinder end being closed, whilst in front it opens obliquely upon the floor of the mouth, being (as it were) slit up and spread out, so as to form a nearly flat surface. On the interior of the tube, as well as on the flat expansion of it, we find numerous flat rows of minute teeth, which are set upon flattened plates; each principal tooth sometimes having a basal plate of its own, whilst, in other instances, one plate carries several teeth. Of the former arrangement we have an example in the tongue of many

terrestrial gasteropods, such as the snail (Helix), and slug (Limax), in which the number of plates in each row is very considerable, amounting to 180 in the large garden slug (*Limax maximus*); whilst the latter prevails in many marine gasteropods, such as the common whelk (*Buccinum undatum*), the tongue of which has only three plates in each row, one bearing the small central teeth, and the two others the large lateral teeth. The length of the tongue and the number of rows of teeth vary greatly in different species. Generally speaking, the tongue of terrestrial gasteropods is short, and is contained nearly entirely within the nearly globular head; but the rows of teeth being nearly closely set together, they are usually very numerous, there being frequently more than 100, and in some species as many as 160 to 170; so that the total number of teeth may mount up, as in *Helix pomatia*, to 21,000, and in *Limax maximus* to 26,800. The transverse rows are usually more or less curved, whilst the longitudinal rows are quite straight; and the curvature takes its departure on each side from a central longitudinal row, the teeth of which are symmetrical, whilst those of the lateral portions of each transverse row present a modification of that symmetry,—the prominences on the inner side of each tooth being suppressed, whilst those on the outer side are increased; this modification being observed to increase in degree as we pass from the central line to the edges. The tongue of the marine gasteropods is generally longer, and its teeth larger; and in many instances it extends far beyond the head, which may, indeed, contain but a small part of it. Thus, in the common Limpet (Patella) we find the principal part of the tongue to lie folded up, but perfectly free, in the abdominal cavity, between the intestines and muscular foot; and in some species its length is twice or even three times as great as that of the entire animal. In a large proportion of cases these tongues exhibit a very marked separation between the central and lateral portions; the teeth of the central band being frequently small and smooth at their edges, whilst those of the lateral are large and serrated. The tongue of *Trochus zezephenus*, represented in Fig. 267, is one of the most beautiful of this form; not only the large teeth of the lateral bands, but the delicate leaf-like teeth of the central portion, having their edges minutely serrated. A yet more complex type, however, is found in the tongue of Haliotis, in which there is a central band of teeth, having nearly straight edges instead of points; then on each side a lateral band, consisting of large teeth, shaped like those of the shark; and beyond this, again, another lateral band on either side, composed of several rows of smaller teeth. Very curious differences also present themselves among the different species of the same genus. Thus, in *Doris pilosa* the central band is almost entirely wanting, and each lateral band is formed of a single row of very large hooked teeth, set obliquely like those of lateral bands; whilst in *Doris tuberculata* the central band is the part most developed, and contains a number of rows of conical teeth, standing almost perpendicularly like those of a harrow."

Here we must pause, apologising for this feeble attempt to mete out commensurate justice to the several excellencies with which every one of its pages is enriched. But, apart from every other consideration, the exact and truthful illustrations with which it is so profusely interspersed would entitle it, simply as a work of art, to the highest commendation,—affording as it does, to all engaged in microscopic investigation, an invaluable criterion by which they are enabled to form a decided estimate of the exactitude of their own individual observations; a discriminative test frequently of the utmost importance, where matters of moment are at issue, requiring a nice and rapid decision as to their nature. It must not, however, be regarded as written expressly for any particular profession in life, for its teeming pages abound with valuable observations, equally applicable and instructive to all; and whilst essentially didactic in its general character, it so happily combines the useful with the interesting, as to render its perusal a source of much real and pleasing recreation. We, therefore, most earnestly recommend it as a study to the young, from its tendency to awaken within them a love and inclination for those pursuits of which it so admirably treats; and, by exciting them to direct their attention to the hidden treasures of nature, under ordinary circumstances so completely concealed from their view, to endow them, so to speak, with a new and additional sense, in a high degree calculated to form the solace of many an idle hour, or a relief from the fatigue engendered by too sedulous an application to those more imperative avocations imposed upon them, either through necessity or position. With the simplest of the instruments described in the earlier sections of this volume, and with the work itself as a guide to its efficient manipulation, a sufficient knowledge is speedily obtained, quite ample for the more general purposes; and, when once tolerably acquainted with its use, an innate thirst for additional information will always form a renewed incentive to increased application, gradually, but surely, opening to the astonished view those amazing exhibitions of creative power, of which, in our review, necessarily brief, we could only give the feeblest outline; but which Dr. Carpenter has so ably condensed into so comparatively small a space, accomplishing this object in such a masterly manner as to leave nothing obscure, nothing unintelligible, and scarcely anything impossible of comprehension, even to the most ordinary capacity.

Pharmakologisch-Medicinische Studien über den Hanf. Inaugural-Abhandlung der Medicinischen Facultät in Erlangen vorgelegt, von Dr. GEORG MARTIUS. Erlangen: Druck der Universitäts-Buchdruckerei von Junge und Sohn, 1855.

Pharmacologico-Medical Studies on Hemp. An Inaugural Dissertation laid before the Medical Faculty in Erlangen, by DR. GEORGE MARTIUS. Erlangen: printed at the University Press, by Junge and Son. 8vo, pp. 92.

THE author's selection of the above subject for this Essay, the first fruits of his pen, originated in a wish to present his father with a work upon a theme chosen from the domain of his (Dr. Martius, Sen.) peculiar branch of science. He was encouraged, and the better enabled to carry out this laudable desire, by receiving from Dr. Steege, Court Apothecary at Bucharest, a valuable consignment of fresh hachisch. Some idea of the industry brought to bear upon the accomplishment of this design may be formed from the fact, that the catalogue in which he recounts the literature of the subject contains nearly 300 references. Dr. Martius' Essay is divided into six sections: the first being historical; the second, botanical; the third, pharmacognostic; the fourth, pharmaceutic; the fifth, chemical; and the sixth, physiologico-therapeutic. It is interesting to observe that "the Chinese were acquainted with hemp as an anæsthetic so early as the third century of the Christian era. According to Stanislaus Julien, a celebrated Chinese physician, named Hoa-Tho (A.D. 220), operated on his patients after having rendered them insensible by means of a preparation of wine and a hemp-powder (*Mafo-san*). Riegler, too, states that the idea on which our ethereal inhalations are based is not new, as from the oldest times a drug was in use among the Indians for a similar purpose, under the name "Esrar" (secret), which has long been recognised as Cannabis Indica.

In the pharmacological section the subject of Dr. Martius' Essay is treated of under the heads of—the herb, distinguishing the Indian, the African, and the German; the resin; and Hachisch, the latter term and its numerous synonyms being used to denote the various intoxicating agents employed in Egypt, Arabia, Syria, Turkey, and generally throughout the Levant and Algiers, of which the Indian hemp constitutes the chief ingredient. Hachisch, in Arabian, correctly translated, signifies only "herb," so that here the hemp is called herb *par excellence*. Haschischa is "an herb;" but, according to the derivation (from *haschscha*, *accendit*, *exaruit*), the idea of dry-

ing is connected with both words. The several varieties of haschisch are divided into the solid and drier, and the soft or fluid kinds.

The author observes that the word "cannabin," which has been used to designate the active principle of the hemp, is just as inaptly chosen as lupulin, which is applied to the glands of the hops, the so-called hop-meal.

We have touched but briefly upon Dr. Martius' Inaugural Essay; it will, however, be found to contain, in a very small space, the fullest information on the subject of which it treats. The author has evidently spared neither labour nor care in its production; and the learning he has brought to bear upon it has clothed his subject with considerable interest.

Throat Ailments; more especially the Enlarged Tonsil and Elongated Uvula, in connexion with Defects of Voice, Speech, Hearing, Deglutition, Respiration, Cough, Nasal Obstruction, and the Imperfect Development of Health, Strength, and Growth in young persons. By JAMES YEARSLEY, M.R.C.S.L. Sixth Edition. London: Churchill, 1856. 8vo, pp. 112.

THAT this monograph has reached a sixth edition is to a certain extent a proof that it is stamped with the approval of the profession. Like most specialists, our author rides his hobby a little too hard occasionally; but we are not, upon the whole, disposed to controvert his conclusions.

In the course of his introductory remarks, he asserts (not without proof), that enlarged tonsils arrest the growth of young persons. This fact he thus accounts for:—

"1. Any impediment to the due transmission of blood to the brain must exercise a prejudicial effect upon the nervous system. By the enlarged tonsil exerting a pressure upon the carotid artery in its passage up the side of the neck, such impediment is created.

"2. From the lacunæ of enlarged tonsils issue foul secretions, which taint the food in its passage down the throat to the stomach; the body, therefore, is deprived of its due supply of pure and wholesome nourishment.

"3. The air which the sufferer from enlarged tonsils takes into the lungs, in the act of breathing, is vitiated by having to pass over a diseased condition of the throat; consequently it is tantamount to the patient living in an unwholesome atmosphere, or an unhealthy and unsuitable climate."

Chassaignac goes farther, and connects the absence or development of the mammary gland, and of the functions of

puberty in general, with enlargement of the tonsil and its removal by operation. Without giving our adhesion to this connexion as a common occurrence, we at the same time have no hesitation in expressing our conviction that in many cases the enlarged tonsil is an indirect cause of retarded growth and development. There is no cause so fertile in these effects as imperfect aeration of the blood, and enlarged tonsils interfere with this process, both by pressure upon the carotid artery and jugular vein; and by narrowing the inlet for air into the lungs. There are not a few cases of chronic bronchitis which are kept in a constant state of irritation by enlarged tonsils, and thus made to simulate phthisis. Of this we have seen several instances.

Among the causes of enlarged tonsil and elongated uvula, we find dyspepsia occupying a prominent position; "the throat passes from a state of subacute inflammation of the mucous membrane to general relaxation and thickening, in which the uvula and tonsils participate."

We quote the following paragraph on "the nature of the changes produced in the tonsils and uvula:"—

"The chronic disease of the tonsils, usually met with, cannot be strictly termed hypertrophy, which signifies an increased nutrition of the parts, inasmuch as the augmented size does not consist of the proper glandular substance, but of deposits of fibrin, which are gradually thrown out during the inflammation or irritation to which they are subject, and in process of time become organized. This organization takes place only to a limited extent, as they never possess much sensibility, when of the largest size, unless acutely inflamed; and they receive so small a supply of blood in their enlarged state, that, even when cut into, little or no hemorrhage takes place. The tumours ordinarily increase in a very gradual manner; and, from their low degree of vitality, would often escape notice, but for the train of evils they usually excite. If felt by the finger, they are generally hard and scabrous; but in many instances, even where they have existed a long time, the induration is altogether absent, and the diseased glands are so soft as to break down repeatedly if laid hold of by a pair of forceps. In others, the mucous cells on the surface of the tonsils are enlarged, and when such is the case, there is a copious secretion of viscid phlegm. More rarely they become filled with solid matter, of a dirty white colour, which, from its calcareous appearance, I have thought similar to the deposit on the teeth, probably originating in the same way as the crusta petrosa (*sic!*) from the salivary and other secretions of the mouth. In three or four instances I have found calcareous deposits imbedded in the centre of the diseased growth. In the case of a young lady I found a calculus closely resembling a piece of rock-coral in its arrangement."

We are much surprised that no mention is made of tubercular deposit in the gland, perhaps one of the most common causes of enlargement;—to it, rather than to sedimentary deposits from the fluids in the mouth, are due the calcareous concretions alluded to.

In the chapter on Treatment, Mr. Yearsley lays down that gargles cannot reach beyond the anterior surface of the soft palate and uvula, and recommends either the direct application of dry astringent powder to the uvula and fauces, by means of a camel's-hair brush, or by blowing the powder through a quill directly upon the parts. He holds that topical applications are of trifling value, and that excision of the tonsil and removal of the uvula are essential, whenever the morbid increase of size is considerable and of long standing. To remove the tonsil, he uses a knife with a strong back, hawk-billed extremity, and placed at an angle with its handle; he does not approve of the guillotine, nor of the common probed bistoury: the latter we have, however, used, and have not found liable to the objection he makes against it, namely, that it bends when opposed to an indurated tonsil. The uvula he excises fully; he draws it forward by a spring forceps horizontally into the mouth, and introduces the curved scissors over it, nearly if not quite up to its base, and its excision in the next moment is completed. To any less complete removal, or snipping of the uvula, he is opposed.

A chapter is devoted to the advantages derived from the use of the elastic bougie in cases of nasal obstruction, and of an elastic tube and bottle for injecting the nose and pharynx, in cases of thickening of the Schneiderian membrane and of ozæna. The remainder of the book is occupied with a "selection of cases, in illustration of the prejudicial influence of morbid conditions of the throat on the voice, speech, hearing, deglutition, respiration, and the development of health, strength, and growth in young persons." There are also extracts from Chassaignac, Liston, and others, in favour of the removal of diseased tonsils and uvula. The last quotation we shall make is one on "the use of the soft palate and uvula:"—

"During the act of deglutition, vomiting, or holding the breath, it has been shown by Dzondi that, by the approximation of the posterior arches from side to side, the lower parts of the pharynx and the cavity of the mouth may be almost entirely cut off from the posterior nares. It is this action, and not the mere raising of the palate, which enables us to swallow without regurgitation into the nose, or to vomit without allowing the matter to escape by the nose, or to perform the act of breathing through the mouth alone when

we wish to defend the olfactory organ from unpleasant odours. When the palatine arches thus act, the uvula lies passive between them, and contributes in some degree to complete the division between the nares and pharynx. It cannot however, be of any great importance in this particular, as this appendage is only present in man and the Quadrumana. In singing, the uvula and palate are raised during the production of the higher notes; and it is a singular fact that when the uvula is removed, and the soft palate in consequence more easily raised, the voice in singing can attain a greater altitude; oftentimes two full notes in the musical scale are gained without any deterioration or loss of the lower notes."

We do not suppose that Mr. Yearsley would remove a healthy uvula for the purpose of increasing the singer's compass of voice, and, if not, the latter part of the above passage only means that an elongated uvula interferes with the power of the voice, which no one will deny. As to the uvula lying passive when the posterior half arches close, we hold that it fills an important position in the motion alluded to. Three things are required to shut off the posterior nares:—1. The oblique movement inwards of the palato-pharyngei muscles; 2. The forward movement of the back of the pharynx by the contraction of the superior constrictors; 3. The upward and backward movement of the uvula, so as to fill a small triangular aperture left in the upper and back part of this muscular septum, made by the constrictors and palato-pharyngei muscles. Now, if the uvula be too long, it produces a feeling as of a foreign body, and a constant attempt to swallow; if too short, it does not close the little aperture, and food and air pass into the nose. This imperfect condition of the uvula is the constant cause of disappointment after operations on the soft palate; and it is not until the other muscles, more particularly the constrictors, accommodate themselves so as to close this aperture, that complete improvement in the voice results. Sometimes this never takes place, but, in general, education and practice will do much. We cannot therefore agree with Mr. Yearsley as to the uselessness of the uvula, for we think it fills an important function, both in deglutition and in speech.

A Paper on the Effects of Lead on the Heart. By John W. Corson, M. D., &c. New York: Miller and Holman, 1856. Pamphlet, pp. 24.

The author prefaces his paper with some remarks on the importance of carefully examining the heart, referring to Dr.

Stokes' observation, "that the weakness or absence of its first sound is the true test for wine in typhus fever;" and adds, that a faint cardiac impulse, with purple gums, properly suggests lead poisoning, and the use of iodide of potassium and strychnia, as therapeutical measures. Dr. Corson found that house-painters and others, with either paralysis or great muscular debility from lead poisoning, had uniformly a more or less weakened impulse of the heart; and generally, on going up stairs, complained of some faintness and cardiac distress, accompanied by fear of sudden death, nightmare, &c.; and these symptoms he regards as evidence of organic disease of the heart.

The first case cited is one of mitral regurgitation, with hypertrophy, the result of rheumatic inflammation, aggravated by lead poisoning. A dusky, tawny, lead jaundice of the skin, and brown incrusted teeth, mentioned by Tanquerel, purple streaks of the gums, faintness, palpitation, weak impulse of the heart, regurgitant murmur with the first sound, were amongst the most marked symptoms. The treatment consisted in the administration of iodide of potassium, with dandelion, bark, and hyoscyamus, which was changed at the end of three months to five drops of tincture of nux vomica three times a day for three months. The effects were remarkable, respiration falling from 30 to 18 in the minute.

The next case detailed was somewhat similar to the former, and was materially benefited by the iodide of potassium treatment, with the tincture of nux vomica. In the fifth case, a house-painter by trade, the most remarkable features were lead streak of the gums, hands drooping and powerless, faintness on exertion, feeble impulse of the heart.

At page 15 the author gives a Table showing the condition, symptoms, treatment, and results of ten cases, the majority of which recovered, the most prominent treatment being iodide of potassium and nux vomica. Dr. Corson states that the pulse in this affection usually ranges from 50 to 65, showing that the heart which propels it is feeble. On the contrary, the stimulus of pain generally renders the pulse in simple lead colic, like the heart's impulse, both hard and full.

Amongst the conclusions, we find noticed weakened or soft tapping impulse, faintness on unusual exertion, as most frequent symptoms of the heart being affected with lead poisoning; and again, that the remedies for the paralyzing influences of lead may be divided into two classes, viz., "disinfectants," such as iodide of potassium and preparations of sulphur, and "anti-paralytics," such as strychnia and electricity; that the best treatment combines these two elements; and that on

the whole the most convenient and efficacious are free doses of iodide of potassium, and minute proportions of strychnia or nux vomica.

The author concludes by stating that the above observations are founded mainly on the evidence of ten cases, principally among the badly nourished and improvident poor, finally resorting to public institutions; and that they may possibly be somewhat modified in future by more extended observation in private and more favourable practice. We strongly recommend this Essay to our readers for attentive perusal, as constituting a carefully written though not altogether novel addition to our knowledge of the effects of lead on the system. From it, moreover, may be adduced evidence in support of the view of the late Dr. Graves, that the muscular structure of the heart partakes of debility when the muscles of the body generally are affected, and that it is to this cause the weakness of the first sound, so common in adynamic fevers, must be ascribed.

A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum. With numerous Wood Engravings. By T. B. CURLING, F.R.S., &c. &c. Second Edition. London: Churchill, 1856. 8vo, pp. 519.

THE importance attached to individual diseases, both by the profession and society in general, varies materially in its extent, in proportion as they are calculated to interfere with the necessary avocations to which the sufferer is devoted, either from necessity or inclination; and it further seems that Providence, governing a system of prescient expediency in allotting physical suffering to our race, has so mercifully tempered the breeze to the shorn lamb, as to render those engaged, especially in intellectual pursuits, more prone to the development of those diseases which enforce a condition of bodily repose, which, although it may impede or retard the results of active exertion, still is in no wise calculated wholly to arrest those daily pursuits, which, taken in the aggregate, constitute the manifest expression of intellectual life. On the other hand, to the physical labourer, the several acute affections, as fevers and inflammations, which must of necessity terminate either fatally or otherwise within a limited period, are meted out, depriving the sufferer for the time being of all mental and physical capability whilst labouring under the infliction of acute maladies. And therefore it becomes intelligible why the chronic affections of a literary life are esteemed rather as an inconvenience than

a danger; whilst to the more acute affections, inasmuch as they involve the integrity of those organs essential to our being, we attach, and the world attaches, a degree of gravity commensurate with their tendency, either to shorten or render miserable the existence of the sufferer, every hour of their prevalence being fraught with danger to life itself, or the destruction of future health and comfort. It is evident that solicitude of no ordinary character should accompany such disease, both on the part of the practitioner, as well as the patient.

But there is still a class of diseases not involving the life of the sufferer, not interfering with his ordinary comfort, not preventing the practice of his usual avocations, not reacting on the system, creating sympathetic suffering not withdrawing him from social happiness, but yet so engrossing in their influence on the mind, so antagonistic to those instincts natural to man, that the patient absolutely suffers more misery than if he was struck down with a fatal disease. Let the meanest being, degraded by some aggravated deformity, robbed of the very semblance of humanity, either by connate or acquired physical imperfection, labour under a severe disease of the genitals, and his agony will be as great, as poignant, and distressing, as that to which the noblest representative of manhood would be liable. Obedient to a wise impulse implanted in the nature of man, the same instinctive feeling to preserve these organs presents itself as a universal law governing society, uninfluenced by race, position, age, occupation, or other extrinsic circumstances: hence we would anticipate, that the literature treating of affections of the testicles and scrotum would be commensurate with the importance of the subject; but such seems to be far from the fact, as we can only recall to our memory four special monographs devoted to those diseases, and some of these scarcely having pretensions to the character of books. Thus, Russel and Vogan are mere manuals, utterly valueless in the present day; and there then remains the work of Sir Astley Cooper, which, although a masterpiece of careful observation and accurate description, becomes, from its price, an object beyond the hopes of the student, and even of the junior practitioner. Nor can it be concealed that there is much new matter connected with the pathology and treatment of the testicles, which observation has achieved, and experience ratified, that must of necessity be absent in a work bearing date so far back as the year 1842. To meet this necessity, and supply an obvious deficiency in the literature of this important class of affections, Mr. Curling published his monograph in 1844; and, after a lapse of twelve years, a second edition of the work is

demanded, which now appears in the guise of a new and original book, as much has been altered and emended—unnecessary matter omitted—unimportant subjects abridged; and this, combined with a full and accurate revision of the whole work, reminds us that in our office as critics, we have to examine material, not hastily or without reflection committed to the press, but rather the embodied experience of an accomplished surgeon and successful teacher; and we have no doubt, that a critical examination of the contents of the volume will fully realise those anticipations which the character of the author justifies us in forming of his writings.

The question of numerical abnormities of the testicles naturally associates itself with the more manifest diseases of these organs; and notwithstanding the author has, with a praiseworthy industry, collected all the authorities bearing on this subject, he still leans to the view that the increase of these glands is rather apparent than real, being probably attributable to the existence of tumours appended to the testicles, resulting from chronic disease; and the unprejudiced anatomist will consider the cases of supernumerary testicles recorded by Schaarf, Blassius, Blumenner, &c., not being verified by dissection, as more than counterbalanced by the negative testimony of Haller, Morgagni, and Meckel, who state that they never met with a single example of real increase in the number of testicles, proved by post-mortem examination. On the other hand, a diminution in the number of these glands has been recorded by the author in five cases, but two of these are so questionable, and one only seeming to present the character of an absolute monorchid, we may safely assume that alteration in the number of testicles is excessively rare, if such an abnormity ever occurs in the human subject.

A curious and interesting case of union of both testicles, is related, as reported by Geoffrey St. Hilaire, to whom it was communicated by M. Breton, of Grenoble:—

"An infant was born at Vizille in 1812: several physicians consulted respecting the child's sex were of different opinions; they decided, however, to inscribe it in the registers as a girl. It died at the age of eighteen months, and was dissected by Dr. Breton, who recognised a complete hypospadias. The scrotum was bifid and empty; and the two subrenal capsules, as well as the two kidneys and the two testicles, were joined together upon the median line. The spermatic arteries and veins, vesiculæ seminales, and vasa deferentia, exhibited nothing remarkable, each half of the double testicle receiving its particular vessels."

This anomaly seems to be unique, as we have been unable to discover any case of a similar nature recorded in the old anatomical works to which we have referred rather extensively. It appears subject to the same explanation as the occurrence of horse-shoe kidney, where these organs are united across the spine, and, as both the kidneys and testicles are developed from the Wolffian bodies, the law of aberration affecting one, might be legitimately considered as most liable to involve all those glands having similar centres of development. However, in two cases of horse-shoe kidney, which we have met in the human subject, the testicles presented nothing unusual in their form or position, which would lead to the inference that they followed the kidneys in their anomalies.

The author has carefully detailed the several abnormal positions occupied by the testicles, but cases of arrest "in transitu," are so familiar to all surgical anatomists, that it would be a labour of supererogation to repeat them here. We shall therefore confine our remarks to the two more uncommon forms, namely, perineal and femoral testicle. Of the former, eight cases are on record. Mr. Hunter, we believe, first noticed this anomaly; and the author, Ricord, and Vidal, published examples of the anomaly. Mr. Ledwich's case and dissection, which appeared in our pages in February, 1855, are also mentioned; but Mr. Curling does not consider the suggestion advanced in that paper, namely, that the *non-development of the scrotum was the cause of the deformity*, as "calculated to throw any light on the subject of this remarkable aberration," and is probably led to form this conclusion from the fact, that in one of Hunter's cases, the scrotum was normal in every respect, although the abnormity was well marked. It is worthy of remark, that two of the most authentic examples of this description should occur on the right side, on which the testicle is naturally higher, and less dependent than on the left. We would be disposed to attribute the great descent of the organ to a high fœtal position of the gland, involving the necessity of a longer gubernaculum and cremaster, which subsequently allows it to drop into the perineum.

Three cases of femoral testicle are recorded. Vidal details the particulars of one where the gland passed out through the femoral ring, and mounted over Poupart's ligament, simulating a femoral rupture. The second is reported by Eckardt. The gland passed at first normally through the inguinal canal, but the patient having returned it into the abdomen, it escaped through the femoral ring. Mr. Curling himself records a most

unique example, observed in the dissecting-room of the London Hospital. He says:—

"The right testicle was small and not developed, and was lodged in the upper and inner part of the thigh, about three inches below Poupart's ligament. It was found behind the saphena vein, just in the opening of the fascia lata; the cord, which was long, encircling the vein. *The right half of the scrotum was deficient.*"

Here the deficiency of the scrotal bag seems to have exercised no inconsiderable effect on the peculiar descent of the gland.

Another malposition, of much importance to the surgeon, is represented by "inversion of the testicle;" the epididymis being attached to the anterior edge of the gland instead of the posterior. In such cases the sac of the tunica vaginalis lies behind the testicle, and all accumulations resulting from disease must necessarily have the gland in front of the tumour. This very interesting anomaly was first described in the year 1855, by M. Maissoneuve, and subsequently by M. Ricord and Mr. Curling. We have seen three cases of this malposition, and have been accustomed to associate its occurrence with a redundancy in the length of the vas deferens and cremasteric apparatus, which seems to us quite sufficient to account for it. An extract from the section treating of hematocele will prove to those sceptical as to the utility of an exact knowledge of anatomy in the practice of surgery, how cautious persons should be in speaking slightingly of a department of medical science, which forms the only true basis of practical safety in operative surgery:—

"The following instructive case exhibits difficulties which would have embarrassed any surgeon, even the most experienced and cautious:—A Portuguese Jew, aged 26, recently arrived in England, applied to me on account of a disease of the right testicle. The organ was enlarged to more than thrice its natural size, was opaque, felt firm, weighed heavy, and afforded an indistinct sense of fluctuation. The man looked healthy, and stated that the enlargement had existed twelve years, but had increased a good deal lately. In the expectation of finding fluid, I thrust a fine exploring trocar into the upper part of the swelling, but nothing except a few drops of blood appeared. Mercury was then taken until the mouth became sore, without any effect on the tumour. Being strongly impressed that fluid existed, I next introduced the exploring trocar into the lower part of the swelling, but with the same result as before. The punctures did not give rise to any increase of tenderness. The patient was now admitted into the London Hospital, and a consultation held on the case. The senior surgeon being of opinion that the dis-

ease might be the result of chronic orchitis, the tumour was strapped, and iodide of potassium gave internally for a fortnight, when, a slight increase rather than improvement being manifested, the plan was discontinued. At a second consultation it was determined, as the tumour had not yielded to treatment, that it should be removed by operation. It was supposed that the disease might be cystic. A very careful examination was made, and firm pressure exercised at different parts, in order, if possible, to ascertain the site of the testicle, but, the man being very timid and sensitive to pain, and unacquainted with the English language, no information in reference to this point could be obtained. He was placed under the influence of chloroform, and, as a measure of precaution, a full-sized hydrocele trocar was plunged into the upper and front part of the tumour where fluctuation seemed manifest. After the instrument had penetrated solid tissues of considerable thickness, resistance ceased, and on withdrawal of the trocar a small quantity of dark red grumous fluid, loaded with cholesterine, escaped. Suspecting now that I had to deal with a hematocele, a free incision was made in front of the tumour just below the puncture, when the appearance of tubuli convinced me that the disease was either cystic, with the glandular structure spread over the surface, or a hematocele, with the testicle occupying an abnormal position in front of the sac. The latter seemed most probable; and as it was considered that the gland had been seriously wounded both by puncture and incision, and that the sac was much diseased, castration was advised, and immediately performed. The case proved to be a chronic hematocele of an inverted testicle. The vas deferens passed down the front of the sac to the testicle, which was sound in structure, but flattened and spread out so as to occupy a great part of the front of the thick, dense, leather-like sac in which it was embedded. The trocar had transfixed its upper part. The patient recovered favourably. Had it been possible to ascertain the nature of the case and situation of the testicle before the operation, the tumour might have been incised at its back part, and the testicle thereby preserved."

The testicles occasionally fail to attain their proper development, and remain permanently small, without any appreciable cause being present to account for the abnormity of nutrition. How far the size of the organ may impair the natural functions of the individual, is still questionable, as the exact amount of seminal secretion necessary to cause impregnation would seem, from the experiments of the Abbé Spallanzani, to be much smaller in amount than could be previously anticipated by an examination of the glands. When we reflect on the complexity and enormous length of the seminiferous tubes, representing such an amount of secreting surface, the inference is sufficiently obvious that activity of function will frequently compensate for a diminution in absolute size,

provided the organs are free from disease. But we should carefully distinguish connate immaturity from acquired atrophy; for, whilst the former may scarcely, if at all, interfere with the function of the glands, the latter wholly extinguishes the procreative faculty if it assail both testicles. Wasting may occur after injury, subsequent to specific testitis, from spermatorrhœa, paraplegia, and injuries of the cerebellum. Again, in old age, atrophy, with fatty degeneration of the tubular tissue, is almost universal. But the author, with good reason, in our opinion, does not subscribe to the common, but erroneous, belief, that the strict observance of monastic vows is an exciting cause of deterioration of the structure of the glands, and conceives that the absence of excitement exercises but little influence on their normal function and powers. This section includes the several interesting cases of atrophy recorded by Hunter, Adams, Home, Hamilton, and others; and the author concludes with the following judicious and sensible observations in relation to curative efforts on the part of the surgeon, remarks which will correspond with the experience of every practical observer; and, whilst leading the practitioner to avoid in indulging in sanguine expectation, serve to shield the unfortunate sufferer from abortive efforts to relieve or mitigate a malady almost in every case beyond his control:—

"An investigation of the causes of atrophy of the testicle is sufficient to show that in many of these cases the surgeon has little power, by any method of treatment, to promote the development or arrest the decay of this organ, these changes being the result of actions beyond his reach or control. In certain cases, as in atrophy from pressure, or from an impeded circulation, and in some instances of decay from injuries of the head, and affections of the brain, we may, by judicious measures, assist in retarding the wasting process. A knowledge of the circumstances which conduce to this change will indicate the means required to check its progress. The treatment suitable in some of these cases will be considered in the chapter on Functional Disorders of the Gland."

The operation of self-castration, performed under the influence of a perverted religious impulse, although constantly attributed to the "*pious* Origen," seems to have been practised before the period of that ancient father; and scarcely a year elapses but some one or two examples of this self-mutilation occur, which may always (according to the opinion of the author, in which we fully occur) be traced to some perverted use of the genitals, acting on a weak and disordered fancy. In fact, such patients seem to labour under temporary insanity,

creating a moral delusion of such intensity, that reason yields before the impulsive desire to destroy the assumed offending organs. Mr. Liston remarked that in suicidal wounds of trivial amount, everything was opposed to salutary repair, and attributed no small amount of danger to the peculiar state of the patient's mind at the period of the infliction of the injury. Our experience fully corroborates the views of that distinguished surgeon, as to the indisposition of such wounds to unite by the first intention, particularly in the cervical, thoracic, and abdominal regions; and we have seen a long subcutaneous punctured wound inflicted by a carving-knife, and not even incising a single fibre of the abdominal muscles, prove fatal under the influence of mere "constitutional irritation," as described by Mr. Travers, totally irrespective of any inflammation that could be detected after death. But this self-mutilation of the testicles seems to form an exception to the general rule, as all the cases which are described by the author, as well as those which have fallen under our own observation, have undergone the process of repair without a single untoward symptom supervening; although in many examples they have been associated with severe lacerations and other complications calculated to alarm the surgeon as to the result: yet, from a careful examination of all the recorded cases with which we are acquainted, a favourable prognosis may be entertained without hesitation.

The section treating of Hydrocele constitutes a complete essay on the subject, and almost exhausts the literature of this malady. As to the age at which the disease is most frequent, Velpeau gives the following Table, containing the observation of 60 cases :—

Between the ages of	15	and	20, . . .	3
,,	20	,,	30, . . .	13
,,	30	,,	40, . . .	11
,,	40	,,	50, . . .	16
,,	50	,,	60, . . .	10
,,	60	,,	70, . . .	6
,,	70	,,	80, . . .	1

This statistical account gives a manifest preponderance to the periods of middle life; with reference to the frequency of the side attacked, Mr. Curling registered all the new cases coming under his observation both in public and private, and of 115 cases, 109 were single, and 6 double; whilst, of the the former, 65 were on the right side, giving a result opposed to the views of Velpeau, Gerdes, and Dujat, who state that

the disease more frequently appears on the left side. The author, in detailing those symptoms on which the surgeon should base a differential diagnosis, appears to us as relying too much on the fact of transparency of the tumour, as an isolated element of the disease; and, taking into consideration the numerous circumstances inducing opacity, such as thickening of the coverings, the state of the fluid itself, and the difficulty often experienced with nervous patients of properly adjusting the light, so as to elicit this symptom, compels us to agree with Mr. Pott, whom the author has the candour to quote as to the fallacy of this evidence of hydrocele. Still, we must confess that we have found the suggestion as to using a cylinder of paper, or the stethoscope, in examining for transparency, a very great improvement on the old plan formerly adopted by surgeons. But we would have much preferred it, had the author impressed the fact more forcibly, that the diagnosis of hydrocele does not depend on the presence or absence of an isolated symptom, but ought to be determined by a careful examination of the aggregate appearances that occur as deviations from the normal condition of the parts. The author states, after quoting the well-known case recorded by Dupuytren, in which a cure was effected of a chronic hydrocele by blistering, that external stimulants have uniformly failed in causing an absorption of the fluid, although he made use of the greatest perseverance in the attempts, which corresponds exactly with the experience of Sir Astley Cooper on the subject; but, although in chronic forms occurring in the adult, such may be the case, yet in acute examples the result of injury, or consecutive to orchitis, both local and constitutional treatment are generally followed by complete success, resulting in permanent removal of the effused fluid. With the latter as an adjuvant, acupuncture may be combined, often with the most favourable effects, and Mr. Curling seems to entertain a very high opinion of this plan, as a palliative mode of treatment in the majority of cases. Having detailed the several forms of radical cure, as incision, excision, caustic, and injection, he judiciously selects the last for its simplicity, preferring the use of iodine injection as practised by Mr. Martin of the Native Hospital, Calcutta. We give an extract from this section, indicating the author's views and practice.

"He used the tincture in the proportion of ʒij—ʒvj of water; injected only a small quantity; and instead of afterwards withdrawing the fluid, allowed it to remain in the sac to be removed by absorption. In a report of cases of hydrocele thus treated at the

Native Hospital of Calcutta, it is stated that from the 9th of March, 1832, to 31st of December, 1839, 2393 cases were under treatment. Of these—

1265	were	Hindus.
1076	,,	Mahometans.
52	,,	Christians.
2393		

And it appears that the failures were rather under 1 per cent.; a result which must be regarded as remarkably successful. Within the last ten years these injections have been extensively tried in Europe, and with a success which has led to their pretty general use in this country. I do not believe, as some have supposed, that iodine exerts any peculiar or specific influence on the serous sac. Like other injections it acts as a stimulant, stirring up inflammation; and, like them also, it is liable occasionally to fail in persons insusceptible to inflammatory excitement, though the retention of a portion of the injection in the sac more certainly insures a favourable result. The apparatus for iodine injections is simpler and more portable than what is required for other fluids, and the operation is free from the risk of infiltrating the scrotum. For these reasons chiefly I have now for several years rarely resorted to any other injection. The only apparatus required, in addition to a medium-sized trocar, is a half-ounce glass syringe with a metallic nozzle, which fits into a small stop-cock adapted to the canula. The metallic parts should be made of palladium, which is not acted on by iodine[a]. I employed at first injections of the strength recommended by Mr. Martin (one drachm of the simple tincture of iodine to three of water), but I found this too weak; and I have used latterly a compound tincture of the following strength undiluted,—iodine ℈ij, iodide of potassium ℥ss, spirits of wine ℥j,—injecting from two to three drachms, and allowing this to remain in the sac for five minutes. The greater part of the fluid is then withdrawn, about half a drachm only being left behind in the sac. Some surgeons are content to inject a drachm of the tincture, and to leave it in the sac, which answers quite well. I have not found the tincture employed in this way in adults at all too stimulating. In operating, however, on persons under puberty, I dilute it one-half.

"I generally perform the operation on the patient standing, but it may be done equally well in the recumbent position. Directly the stimulating fluid becomes lodged in the vaginal sac, the patient generally feels sick and faint, and experiences pain in the part and

[a] "Palladium, being elastic, is a better material for a canula than silver. If made of silver the instruments should be immediately cleansed after use by dipping them in a solution of the hyposulphite of soda (℥i—℥j), which will prevent the iodine corroding the silver. This solution is also useful in removing iodine stains from the fingers."

in the cord, with uneasiness in the loins. The pain is sometimes so severe that the removal of the injection becomes necessary before the expiration of the usual period. The amount of inflammation excited by the operation cannot, however, be estimated by the degree of pain suffered at the time. There is great difference in persons in their tolerance of stimuli, inflammation being more readily excited in some than in others; but its amount and intensity by no means depend on the susceptibility of individuals to pain.

"The success of the operation of injection depends a good deal on the after-treatment. If too much inflammation be apprehended, means must be taken to moderate it; on the other hand, as a certain degree of inflammatory action is essential to the cure, if no pain or other symptoms arise, the surgeon must endeavour to excite it. When symptoms of inflammation arise, which generally happens in the course of a few hours, I recommend the use of a suspender, and rest in the recumbent position until the acute symptoms begin to subside. If these precautions be neglected, there is risk of more inflammation being excited than is necessary. Should no symptoms of inflammatory action be evinced in the course of eight or twelve hours, the patient should be encouraged to move about; and the testicle may be handled, so as to occasion slight friction between the surfaces of the tunica vaginalis. If the swelling should become considerable, and the pain and constitutional disturbance be great, the activity of the inflammation must be moderated by saline purgatives, or tartar emetic, as in the treatment of acute orchitis. I have never had occasion to do this, the chief difficulty which I have experienced having been to obtain an adequate amount of inflammation. It may, however, run too high, and go on to suppuration. This has not occurred after any of my own operations; but I was once summoned to a case in which suppuration had taken place after injection by another surgeon, and had to incise the sac. Sir B. Brodie remarks, that he has never known suppuration to occur after the operation by injection, except in West Indians, and in them only in three out of a great number of cases. In these cases the injected fluid was not made stronger than usual, but was even retained a shorter time—in one case only a single minute—and yet the inflammation was excessive; there was violent pain, and great constitutional disturbance. I have operated very often on persons from warm climates, but have not found injections productive of higher excitement in them than in residents of this country."

It is not uncommon to find the scrotum distended with fluid immediately after birth, constituting a congenital hydrocele. In such cases a communication exists between the vaginal cavity and that of the peritoneum, this fluid seeming to be secreted by the latter membrane, and to gravitate into the scrotum. Mr. Curling recommends that a truss should be applied with the object of obliterating the communication between the

two cavities, and subsequent absorption then completes the cure. We conceive that he justly condemns the practice of Desault and Dupuytren, who advised and practised injection in these cases, as the danger of exciting peritonitis must be apparent to every experienced surgeon conversant with the anatomy of the parts.

The author treats rather copiously of hematocele of the tunica vaginalis, resulting either from a direct contusion, or as the consequence of the operation for hydrocele. He believes that, in the majority of such cases, cold evaporating lotions, combined with a strict antiphlogistic treatment, will be sufficient to attain a cure, whilst it is only in exceptional cases that the operation of incising the tunica vaginalis, turning out the clot, and healing the wound from the bottom, becomes necessary. We cannot recommend surgeons to place such implicit reliance on the probable success to be derived from external applications, as our experience indicates that incision constitutes the rule, and the use of palliatives the exception, in extravasations of blood in the sac of the tunica vaginalis, if the surgeon intends that a permanent cure should be effected; as, even with an apparent subsidence of the tumour, and cessation of all active symptoms, a clot may still, and often does, remain, which, becoming a source of continual irritation, induces a secondary form of hydrocele, that is only to be successfully treated by incision.

The author gives due credit to Mr. John Hamilton, as being one of the first essayists to draw attention to the double aspect under which syphilitic testicle may occur, but it seems to us, totally unprejudiced on the subject, an oversight of no small amount to overlook the labours of the late Mr. Colles, with regard to syphilitic testicle,—he, we rather think, being the first writer who traced an association between chronic sarcocele and the specific affection of the constitution. Mr. Hamilton very justly states that it may occur both with the presence of secondary and tertiary symptoms; but Mr. Colles seems also to have been aware, that two very different forms of the same disease existed: no doubt, he says that it occurs as one of "the latest symptoms of the disease," yet he does not fail to discriminate a still later affection than the first; in fact, "such patients may be considered in the very last stage of the venereal disease, and on the very threshold of being afflicted with those constitutional changes, which (from experience) we know to be the prelude of death." We have no doubt that he had fully realized, from the fulness and accuracy of his

description, an entire knowledge of both affections, and a careful perusal of his section on "Venereal Affections of the Testicle" will satisfy Mr. Curling of the correctness of our opinions in this respect. The author remarks:—"It commences in the body of the gland, seldom effects the epididymis, and rarely terminates in suppuration." Now, Mr. Colles is specific in his statement, that "the entire organ is affected," that is, both the epididymis and the body of the testicle; but, in the same section, he describes in what manner the organ may be affected in broken-down constitutions, mismanaged by frequent courses of mercury; and, in such cases, the swelling does not involve in one common mass both the epididymis and body of the gland. Can Mr. Curling have overlooked this distinction, so accurately described by one of our most distinguished surgeons, whose writings are esteemed as classical in this country, and valued as practical contributions to the records of observation wherever science is appreciated, and the art of surgery cultivated in its proper spirit?

There are many other features in this excellent work, which are still capable of further improvement and amplification; and we trust that in a future edition we shall have an opportunity of observing a further increase in the practical tendencies of the volume: as an example, we would adduce the mode of treatment by strapping in acute orchitis. The author describes the exact plan of proceeding with great accuracy and simplicity, doing every justice to Dr. Fricke's directions; but we should have wished that Mr. Curling had particularized the precise cases likely to be benefited by this treatment, and those examples in which the practice, if not absolutely injurious, prevents the surgeon adopting other means of more certain efficacy than mere local compression. In making these remarks, however, we would not desire to be considered as throwing even a shadow of imputation as to the work being imperfect;—so far from such being our intention, we fully and freely recommend the volume to our readers, as being the most perfect, accurate, and practical treatise extant on diseases of the testicle and scrotum.

Report on the Diet of the Sick, submitted to the American Medical Association, May, 1855, *and republished from their Transactions.* By Charles Hooker, M. D., Professor of Anatomy and Physiology in Yale College. Pamphlet, pp. 48.

It gives us great pleasure to recognise the activity and research of our professional brethren on the other side of the Atlantic, and nowhere does this appear to greater advantage than in the Transactions of their National Medical Association, which have steadily increased in value, as well as in size, so that we thankfully acknowledge the possession of eight goodly volumes, containing many valuable communications, particularly upon medical topography, and certain reports undertaken at the request of the Association. We may mention, "en passant," that the Association has an ethical as well medical character, admission to its membership being evidence of professional conduct and standing.

The Report before us is carefully written, and will interest most as bearing upon a subject of common concern. The first part is an enumeration and elucidation of the general principles and common errors in diet; and we cannot but agree with the author as to most of them. For example, sufficient time should be allowed for mastication and insalivation, and the greater proportion of food should be solid; but, though we think an *excessive* quantity of drink, particularly if fermented, should be avoided, we are not quite prepared to attribute many cases of dyspepsia, cholera infantum, scrofula, phthisis, dropsy, urinary diseases, and purpura hemorrhagica, to water-drinking, as the author does. Experience fully bears out the author's remarks on the necessity of regularity of meals and variety of food. He gives some interesting observations on the habits of persons as to eating the fat of meat, and the results, from which it appears that nine-tenths of persons dying of phthisis, between the ages of 15 and 45, have never used fat meat, and those who do use it have an increased chance of long life. Dr. Hooker regards this peculiarity in phthisical patients as at once effect and cause, and certainly the results obtained from the use of cod-liver oil, and other oleaginous substances, in scrofulous or phthisical patients, is much in favour of his argument.

The next part of the Report is occupied with laying down similar general principles for the diet of the sick, in illustrating the two objects of food in sickness, viz., the regulation of the digestive function, and the nutrition of the system, and then applying these practically to several diseases. Thus, in dys-

pepsia, instead of fancifully selecting some articles of food and rejecting others, the digestive organs should be gradually trained to the use of all common kinds of food, beginning with the plainest and most easily digested, and changing frequently. In phthisis the meals should be regular, the diet varied, with a sufficient use of oily nutriment, and an avoidance of excessive drinks. In typhus fever he still advocates regularity of meals, and a moderate portion of dry, moderately nutritious food, as dry toast and crackers, with little liquid between meals, during the early stages of the disease; and during the latter, he entirely concurs with the rules laid down by the late Dr. Graves, as to the propriety of "feeding fevers," and the danger of inanition from want of food. In dysentery the author's rule is the same —in the early stages, regular meals of light solid food, to regulate the digestive organs, and afterwards a more generous diet, as required for the nutrition of the system.

The account given of the diet of lying-in women thirty years ago is amusing enough. The patient was not allowed meat for nine days, but lived upon slops, "with a liberal allowance, in most cases, of milk-punch, and gin-sling." Dr. Hooker recommends bread and butter, toast, crackers, rice, &c.; so that mastication shall be necessary with each meal, for the first three or four days, and then gradually animal food. This does not differ from the general practice in these countries.

From attention to the points we have noticed, the author enumerates the following advantages, viz., the sustaining of the appetite, the regulation of the digestive system, the increased comfort of the sick, the maintenance of nutrition, a diminished liability to relapse, and a diminished danger of disease,—and we think he has as good ground for his expectations as he has shown good sense in his advice.

A Manual of Zoology. By M. MILNE-EDWARDS. Translated by R. KNOX, M. D., F. R. S. E., &c. Illustrated by 500 first-class Wood Engravings. London: Renshaw, 1856. Fcap. 8vo, pp. 503.

THE throwing open of the medical appointments in the East India Company's Service to public competition, and the requirement of a knowledge of natural history in the candidates at the competitive examination, necessitated the publication of a compendious yet concise Manual on this branch of science for the use of medical students. The works already existing on Zoology in the English language, though many of them most

admirable in their way, originally written with a different intention, were not exactly suited for the purpose; while in France, where for some time natural history has formed a portion of the curriculum of medical studies, some excellent books, peculiarly adapted for the professional student, have been in general use. There were three Manuals specially adopted by the Council of Public Instruction of France, and published under their auspices; that of M. Milne-Edwards on Zoology; that of M. Beudant on Mineralogy and Geology; and that of M. Jussieu on Botany. The first of these was very wisely selected for translation into the English language by the publisher and author, whose names are on the title-page, and now lies on our table for review.

That it was a good selection is sufficiently evidenced by the character which the original has acquired in France, it having already passed through several editions; and a certain condensation in the translation, as described by Dr. Knox in the following paragraph, has, in our opinion, rendered it more suitable for the English student:—

> A single remark is required, and will, I trust, suffice to explain why this translation of my esteemed friend's work occupies a considerably less space than the original. The translation being addressed to Englishmen, lovers of matters-of-fact in science as well as in other things, it became a duty I owed the public and publisher to avoid all repetitions, all French idioms, all lengthened treatment of physiological and metaphysical hypotheses; but in doing so I have scrupulously avoided omitting any fact or idea or opinion of the author. The curtailment has been in the language alone. The anatomical details of the work I have endeavoured to give in as brief, concise, and simple a manner as befits such matters. Anatomy is a science of facts and of demonstrations; even when the objects are present, as in lectures (and this was the original form of M. Edwards' work), it is a mistake to overload their description with terms, whether technical or popular: my vast experience as a teacher of Anatomy early taught me this. In French the error is less obvious than in English, a language which does not readily accommodate itself to those combinations of unclassical terms which all science unfortunately requires; which sound harshly to the ears of the classical scholar, and have greatly retarded, no doubt, the accomplishment of that object which is the aim of this work, namely,—the introduction in England of Zoology as a branch of primary education.

This translation, then, of M. Milne-Edwards' Manual we can recommend to all, both the professional and non-professional student; to our more advanced readers also we can

warmly commend it as presenting a sufficiently extended yet much condensed view of this highly interesting branch of natural history. It has but a single defect, that of the want of an index, a very great defect indeed, yet one which we hope soon to see remedied in a second edition. As for the getting out of the book, it deserves all praise; expensively illustrated with the most admirably executed woodcuts, which are printed on paper of exquisite finish on the surface, it puts to shame many of our gorgeous drawing-room volumes, and is certainly a marvel of cheapness at the price for which it is sold—so cheap is it, indeed, as to leave no excuse to the medical man for not placing it in his library, if not for immediate study, simply as a book of occasional reference.

The Micrographic Dictionary. A Guide to the Examination and Investigation of the Structure and Nature of Microscopic Objects. By J. W. GRIFFITH, M. D., F. L. S., &c., and ARTHUR HENFREY, F. R. S., F. L. S., &c. Illustrated by 41 Plates and 816 Woodcuts. London: John Van Voorst, 1856. 8vo, pp. 696.

THE great interest which the study of the microscope has of late years attained may be fairly judged by the number of works on the subject which have been recently published. It is not long since this instrument was regarded either merely as an amusing toy, or as an optical instrument to be comprehended and employed only by those deeply versed in natural philosophy. Now, however, a knowledge of its construction, mode of use, and general application, is considered necessary of being acquired as a branch of general education, and must be attained by every student of medicine. We have in a previous page in our present Number dwelt on the importance of the use of the microscope in our profession, and indicated a work with the assistance of which our readers may obtain just the aid they require in the prosecution of microscopical study, and we now bring under their notice a volume which, having mastered the elementary portion of the inquiry, they will find indispensable for reference.

The Micrographic Dictionary is a splendid addition to the literature of this branch of optical study; originally intended by the authors, as stated in their Prospectus, to constitute "an index to our knowledge of the structure and properties of bodies revealed by the microscope," as it progressed through the press it has grown in their hands into very much more, and now

presents to us a complete history of microscopic investigation. It contains an immense amount of independent observation, besides a full condensation of all the more recent results arrived at by investigators both at home and abroad, and which have been diligently collected, as the bibliographical references show, from the original sources chiefly scattered throughout the periodical literature both of natural history and of medicine. The work abounds in illustrations, both original and selected, woodcuts being profusely scattered throughout the text, and forty-one plates, engraved in the first style of art, many of them coloured, and containing nearly 500 figures of objects, being added. Indeed, we cannot find words sufficiently strong to express the high estimate we put upon this *magnum opus;* and our opinion of the manner in which the authors, whose names rank high as cultivators of comparative and human microscopic anatomy, have executed a very difficult task.

We shall afford our readers an opportunity of judging for themselves of the completeness of the information which they will obtain by reference to this Dictionary, and for this purpose we shall extract the entire article on Nerves:—

"Nerves and Nervous Centres.—The nervous system is usually regarded as consisting of two parts: the nerves, which are divided into the cerebro-spinal and the sympathetic; and the nervous centres, represented by the brain and spinal cord, with which must also be placed the ganglia. These parts are composed essentially of either nerve-tubes, nerve-cells, or of both these elements.

"The *nerve-tubes* or primitive nerve-fibres are most numerous in the white portion of the nervous centres and in the nerves. They are slender, soft, cylindrical filaments, varying in diameter from 1–20,000 to 1–1100″. When quite recent, they are transparent and apparently homogeneous, but they really consist of three distinct parts,—an enveloping membrane or sheath, a tenacious liquid, and a soft but elastic internal fibre.

"The sheath of the nerve-tubes is a very delicate, structureless, and transparent membrane; it is not demonstrable in the smallest fibres, although probably always present.

"Within the sheath is a hollow cylinder or tube, called the white substance of Schwann. It is homogeneous and tenacious in perfectly fresh nerves, but soon after death becomes coagulated, sometimes externally only, giving a double outline to the walls of the nerve-tubes, or becoming granular externally, and remaining liquid internally. It is also easily altered by pressure, sometimes escaping in globules or masses of various form, from the ends or the broken sides of the tubes, at others accumulating at intervals in various parts of the tubes, giving them an elegant varicose appearance.

"The third structure exists within the last, in the form of a rounded or flattened, pale, elastic band or fibre, occupying the axis of the tube, and called the axial band.

"These three structures of nerve are somewhat difficult of demonstration. The outer sheath may sometimes be shown by pressing the nerve-tube, which forces out the white substance. Boiling the nerves in absolute alcohol, with the subsequent addition of caustic alkali, or in acetic acid, when crystals of fat separate from the white substance, will answer the same purpose. Treatment with strong nitric acid, and afterwards with potash, causes the white substance to exude, and the axial fibre being dissolved, the yellow sheath is left empty and very distinct. Solution of corrosive sublimate has also been recommended. The axial band is best seen in nerves treated with strong acetic acid, cold absolute alcohol, ether, chromic acid, &c.

"Chemically the sheath and axial band consist of a proteine compound, and the white substance of a mixture or compound of fat with a proteine substance.

"In the cerebro-spinal nerves, the nerve-tubes are aggregated into bundles, and surrounded by an envelope of areolar tissue, called the neurilemma, in which bloodvessels ramify, thus corresponding with the arrangement of the primitive fibrillæ of muscle. Sometimes, towards the terminations of the nerves, the neurilemma appears as a homogeneous membrane with elongated nuclei.

"The nerves rarely branch; they usually terminate in loops.

"In the gray, sympathetic, or ganglionic nerves, the fibres of which are sometimes called gelatinous fibres, the nerve-tubes are smaller and paler than those of most of the cerebro-spinal nerves, and scattered through a more copious areolar sheath or neurilemma of mostly longitudinal fibres (Remak's fibres), containing numerous elongated nuclei.

"*Nerve-cells*, nerve-corpuscles, or ganglion-globules are nucleated cells, most numerous in the cineritious or dark portions of the nervous centres, and in the ganglia, but sometimes met with in the trunks and terminal expansions of nerves, as the retina, &c. They are furnished with a delicate outer coat or membrane; this is easily seen in the cells of the ganglia, but with difficulty in those of the central organs.

"They are rounded, elongate, pyriform, or angular. Some of them are simple, others furnished with one, two, or more simple or branched processes, by which they are connected with nerve-tubes; hence they are described respectively as uni-, bi-, or multipolar. Their contents are a soft, tenacious, and elastic mass, consisting of a clear, homogeneous, proteine basis, and a number of larger and smaller granules, as well as a nucleus. In size they are very variable, from 1–5000 to 1–500″. The granules are sometimes colourless, at others yellow, brown or black; and occasionally these are aggregated to form a mass.

"Intermingled with the cells in the cineritious matter of the

nervous centres, is a finely granular pale substance, resembling that within the cells, also aggregations of free nuclei.

"The *ganglia* consist of nerve-tubes either separate or united into bundles, intermingled with nerve-cells, from which some of the nerve-tubes arise. The tubes and cells are imbedded in or supported by a stroma of areolar tissue, sometimes homogeneous, at others more or less distinctly fibrous, forming an apparent sheath to the ganglia, and ending in numerous septa; rarely but occasionally forming a distinct envelope to the individual cells; sometimes it consists of elongated, triangular, or spindle-shaped nucleated cells,—in short, corresponding to areolar tissue in various stages of development.

"The nerves are developed from the elementary embryonic cells, which at first appear rounded, or slightly elongated, and somewhat flattened. In their further growth they either retain the primitive shape, or send out persistent lateral processes, so forming nerve-cells or ganglion-globules, or the processes of adjacent cells unite into nucleated fibres, much resembling those of the sympathetic system, in which the white substance and axial fibre of the nerve-tubes are formed as secondary deposits.

"In atrophy and degeneration of the nervous elements, the nerve-cells become loaded with fat and pigment, and the walls of the nerve-tubes thinner, brittle, and the white substance more or less replaced by granules of fat."

In fine, we should add, that an Introduction of forty pages of closely printed matter is prefixed to the Dictionary, in which is given a full description, optical and mechanical, of the microscope and its accessory apparatus; directions for the selection of an instrument; full instructions for its manipulation, and for preparing and mounting objects to be observed; with some general remarks on the special education of the eye necessary for microscopical investigation. We cannot resist extracting for our readers from this Introduction the following valuable hints as to the more common sources of error in microscopic investigation; the importance of the information conveyed in them is sufficiently manifest:—

"In using the microscope, exactly the same precautions must be adopted and just the same course pursued, as when the object under examination is distinctly visible to the unaided eye. We have thought it requisite to introduce this formal definition of the true use of this valuable instrument, from a knowledge of the fact, that in this country at least, the microscope has hitherto been used chiefly as a means of *viewing* minute objects, and judging of their nature from the simple inspection of them under the conditions in which they naturally or accidentally occur. Such means, the most careless observer must be well aware, is never trusted alone in the examination of objects visible to the naked eye, being almost sure to

lead to erroneous conclusions. Consider the common course pursued in the examination, with the unaided sight, of a body for the first time presented to our notice! The first point is the examination of its general appearance and colour; the relative position of the eye of the observer and the object is then changed, so that an idea of its solidity may be obtained; its weight is next, perhaps, determined by taking it in the hand; it is presented to the light in various ways, in order to judge of its transparency, and of the optical properties of its surface. If the object be at a distance, its size is judged of by comparing its apparent size with that of adjacent bodies, whose dimensions are approximatively known; and its luminousness is also taken into consideration, it being known generally that the nearer bodies of the same size are to us, the more luminous they appear. The observer then is either satisfied with the conclusions drawn from reasoning upon the results thus obtained, or he makes besides a chemical examination. When the microscope is called into use, many of these modes of determination of the properties and nature of objects are still applicable, yet mostly is the observer satisfied with simple inspection; the object is then, perhaps, 'put up,' and exhibited to an astonished multitude, probably as many opinions being formed of its nature as there are observers present, and possibly all of these incorrect.

"Another frequent source of erroneous judgment consists in forming an opinion upon the normal or abnormal state of an organic structure, without a previous knowledge of the natural structure of organic tissues. And so imperfect is the system according to which investigations are conducted, that we not unfrequently hear of a morbid structure having been submitted to two or more observers, each of whom gives a different report, even as to its morphological components.

"Through such and other similar circumstances, the microscope has given rise to most absurd errors, which might have been easily prevented by a slight knowledge of its proper use; thus, to take a few examples: the fruit of the mulberry has been mistaken for entozoa; calcareous corpuscles have been regarded by several observers as ova, and the appearance arising from the presence of concentric laminæ has been interpreted to be the coils of an enclosed embryo; similar corpuscles have also been regarded as nucleated cells, and again as blood-corpuscles: minute fossils in chalk have been strung together with portions of vegetable tissue and (perhaps) the spores of algæ, to constitute different stages of a fungus: minute hairs projecting from the surface of a membrane have been declared to be spicula within subjacent cells; and quite recently, one writer states that certain minute bodies which he has examined are either blood-corpuscles or the spores of fungi, but which, is doubtful! while another recounts, how by fortunate accident he discovered that corpuscles, which he had regarded at first as consisting of fat, were afterwards found accidentally to consist of calcareous salts! Again,

we read in physiological works of the yolk-cells and the coloured oil-globules of the yolk, and a beautiful function of assimilation has been attributed to them: but they exist only in the imagination of the authors, who have regarded the one as cells simply because they are round, and the other as consisting of fat, because they are highly refractive. Since the publication of Schleiden's cell-doctrine, almost everything round has been regarded as a cell; any single body within this, or where there are several, the largest has been regarded as a nucleus, and any spot within the nucleus has been viewed as a nucleolus. Whereas many of the so-called cells are homogeneous spheres; many of the nuclei are vacuoles, and a true nucleolus is very rarely found except in the books.

"Hence, the very utility of the microscope as a means of investigation has been called in question. But it must be borne in mind that all the known errors committed in the application of this instrument have been corrected also by its use; so that the fault cannot be attributed to the instrument, but to the observer.

"As error is almost invariably associated, at least temporarily, with improvement or advance in knowledge, it might be urged that the above errors were unavoidable. A little reflection, and the perusal of the means given presently, will show, however, that they have arisen from extreme carelessness, and from ignorance of the means of distinguishing appearances from realities. And it may be remarked, for those who have but small means at their command, and who are unable to procure a first-rate English microscope, the possession of which is commonly regarded as all that is requisite, that perhaps nine-tenths of the facts elicited by the use of this instrument have been determined by foreigners with far less perfect instruments, and that a large part of the results obtained in this country with the best microscopes are either erroneous, or have been published as original after having been previously made known in foreign works.

"We have alluded to these errors merely for the purpose of warning future observers, and impressing upon them the importance of making themselves acquainted with the difficulties attendant upon microscopic investigations, and with the best means of overcoming them. In fact, it may be briefly stated, that the object of the present work is to guide the microscopist in his researches, to give him a notion of the manner of making these researches, also some account of the microscopic structure and properties of objects in general, and to show how he may most easily arrive at satisfactory results. A knowledge of the structure and properties of objects in general is of more importance than may at first be apparent; for bodies as found in nature are generally of a mixed kind, and it too often happens that a young observer, soon after having procured a microscope, takes up some particular line of investigation, to which he may have been previously attracted; and without the least knowledge of the structure of objects in general, of what has been

done before, or of the proper method of using the instrument, he arrives at the conclusion that all is new and satisfactory. The whole is then destined to encumber the pages of scientific works with a load of imperfect and useless details.

"But, independently of the disadvantages attendant upon the improper use of the microscope, there are difficulties inherently connected with the examination of microscopic objects, which are not encountered when objects are examined with the naked eye. One of these is, that with the ordinary microscope, objects are only viewed with one eye; hence we lose the direct power of distinguishing solidity, &c., and are compelled to resort to indirect means for these purposes. This difficulty is, however, now being overcome, since stereoscopic microscopes are being constructed, and although not yet brought to perfection, will undoubtedly be so in a short time. The ordinary objects around us are also usually viewed by reflected light, whilst with the microscope they are mostly viewed by transmitted light, and we are, consequently, much less practised in judging from the appearances of objects thus illuminated, and therefore liable to err.

"Another, but a less important difficulty in microscopic investigations, or, at least, manipulations, consists in the image of the objects being inverted. Erecting eye-pieces, as they are called, will obviate this difficulty; but, as they are expensive, they are seldom used.

"Another very serious source of error lies in the tendency to reason from analogy, as to the structure or nature of a body viewed under the microscope. Any one who pursues this course has his mind prejudiced by preconceived notions, and becomes, in fact, no observer at all."

PART III.

MEDICAL MISCELLANY.

TRANSACTIONS OF THE ASSOCIATION OF THE FELLOWS AND LICENTIATES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

(*Continued from* p. 229.)

SESSION 1855–6.

FOURTH MEETING, FEBRUARY 6TH, 1856.

DR. LEES read an account of a case of the *Passage of a Biliary Calculus.* The subject was a medical practitioner, aged 31, "of stout habit of body," and was himself the author of the following memoir:—

"During the greater part of the last summer, I was occasionally attacked, whilst in bed, and after midnight, with violent pains in the region of the stomach, resulting from flatulent distention, and passing off with copious perspiration after about half an hour's continuance. This visitation I attributed at the time to the use of a cigar or two, which I was in the habit of smoking late at night, for the purpose of preventing sleep, but the evil did not appear to me of sufficient magnitude, either presently or prospectively, to exact the sacrifice of a favourite luxury. Towards the end of July I spent a fortnight in the country, where I took rather active exercise; but neither whilst there, nor for the three months immediately subsequent to my return to Dublin (during which I usually walked two or three miles a day), had I a return of the pain.

"Throughout the month of November, however, the attacks recurred with increased severity and frequency, lasting each time about two hours, but not incapacitating me from rising as usual, and discharging the ordinary business of the day. I moreover observed, now for the first time, that the pain in the abdomen was attended with a burning, shooting pain in the muscles of the right side of the back, varying in locality, but most persistent and troublesome at the inferior angle of the scapula; this latter now

became the most urgent symptom, preventing me from holding a book in my hand for any length of time, from stooping forward over the table whilst reading, and rendering it necessary to stand at the chimney-piece for that purpose; but even this posture soon became fatiguing, and had to be relinquished. I was now reduced to the necessity of devising, and having made to order, a sliding book-stand which stood between my legs, supporting the book at the proper height, and permitting me to lean backwards against the chair and suffer my arms to hang loosely by my side. During the first week of December I had two, and during the second three attacks; but as all these were characterized by similar features, and differed only in the progressive intensity and duration that marked each succeeding one, I may select any of them indifferently for description.

"I generally retired about 11 P.M. but could infallibly predict the approach of my troublesome visitor, from a feeling of distention and tenderness in the right hypochondrium, and certain premonitory shooting pains in the back. After having been about an hour in bed, and when the body had become warm, both these pains were greatly aggravated, causing me to moan heavily, to press my hand instinctively upon the right side of the abdomen, and roll incessantly from side to side, but without obtaining any relief by change of position. The entire night was passed in this state, and so exhausted did I feel in the morning, both from pain and loss of rest, as to be incapable of rising till mid-day. I suffered, besides, a good deal from eructation and acidity of stomach. About this time I had the benefit of your advice, and took, by your direction, a combination of potash and taraxacum, but with no appreciable advantage. An alteration of diet, however, which you recommended, consisting chiefly in abstinence from fat, eggs, and porter (a glass of which I was in the habit of taking at dinner), had the effect of postponing the attack for a week, but at the end of that time it returned with increased severity, and lasted for twenty-four hours. The abdomen was tympanitic, and I could distinctly feel at intervals, beneath the edges of the false ribs on the right side, a rolling motion, as of a coil of intestine distended with gas; there was also partial eructation, from which I experienced some relief. I kept up constant relays of hot stupes alternately to the back and abdomen, and took large doses of opium, but with no good effect. A fetid enema, however, gave relief, and was the means of terminating the attack. You had before this time expressed your belief that the symptoms were produced by the entrance of a gall-stone into one of the biliary ducts, notwithstanding the absence of vomiting and of jaundice; and in this opinion I believe you were fortified by Sir H. Marsh, who kindly visited me at your request, during the last attack. On Christmas eve I was imprudent enough to take a bottle of ginger-beer as a carminative, and afterwards some bread and boiled milk for dinner; immediately afterwards, I felt the epigastrium distended as if by sudden inflation, whilst the lower regions of the ab-

domen became rigid and concave; I was compelled at once to retire to bed, and shortly afterwards I discharged the contents of the stomach. The pain now became truly a torture, forcing me to scream loudly, and vainly to seek relief in every position; that which was most tolerable being upon my knees and elbows, but even this could not be endured beyond a few moments. Retching was now incessant, no fluid remaining on the stomach. A dose of chloroform was immediately rejected; a fetid enema and pills of opium and dried soda failed to make any impression; but on getting into a warm bath the relief was instantaneous, and so complete, that I fell asleep whilst in it. The bath was repeated, and with equally favourable results, the pain having entirely left the abdomen. It settled, however, in the back, where it persisted in a rather aggravated form, from 10 o'clock on Monday night till about the same hour on the Wednesday following, when, quite unexpectedly, I fell asleep, and awoke after two hours, perfectly free from all pain. I took two aperient pills, which acted freely that night, and, as I felt certain that the gall-stone had passed into the duodenum coincidently with the subsidence of pain, I made a careful search next morning, and found in the bottom of the night-chair the calculus which I gave you. My face and body were now well jaundiced (which the nurse states she observed so early as Monday), and the urine was deeply tinged with bile, exhibiting the iridescent play of colours on dropping nitric acid into a thin stratum of it, and staining white paper yellow. For several days afterwards the alvine discharges were also loaded with bile, which appeared to act as a natural purgative, producing two or three stools in the twenty-four hours, and, from its acrid properties, causing troublesome tenesmus. I was greatly enfeebled after the last attack, but am now quickly regaining strength, under the influence of a proper regimen. It only remains for me to offer a few observations on the case, leaving to your better judgment the more general reflections upon it. The calculus very nearly escaped detection, as I searched for it only on the surface of the liquid after pouring water into the pan,—having read somewhere, I think in Watson's book, that such concretions float upon the surface; but this statement is certainly incorrect, at least if applied without qualification. The peculiar figured surface of the calculus likewise puzzled me, as I had never before seen a gall-stone presenting such an appearance, which closely resembled that of a mulberry calculus, and at first led me into the belief that such was actually its nature. But a little reflection on the anatomical peculiarity of the mucous membrane of the gall-bladder will, I think, afford a ready explanation of the appearance alluded to: this membrane is alveolar, presenting small polygonal spaces, bounded by raised and prominent edges, like the reticulated stomach of ruminants; but on a reduced scale. Now, at the period when the cholesterine or constituent material of the calculus (whatever that may be) was becoming inspissated, as yet soft and plastic, and subjected to the centripetal compression of the now admitted muscular tunic of the gall-bladder,

it necessarily took a cast of the lining membrane of the latter, and, as I would fain believe, and fondly hope, no other being present to derange the uniformity of surface, it presents no facet or angle. The absence of jaundice during the early attacks may possibly be explained upon the assumption that the calculus was then only engaged in the cystic duct, which, being much the narrowest of the biliary ducts, retarded its progress for many weeks, whilst the last attack, the severest of all, and attended with vomiting and jaundice, coincided with its passage through the common choleduct. I am led from the following circumstances to believe that the duodenum, not the colon, was the seat of the painful flatulent distention, and was probably excited to spasmodic contraction by the close proximity of the irritating substance: firstly, the pain and tension never extended below the middle of the right lumbar region, nor farther towards the left than the mesial line of the abdomen. And secondly, eructation was of frequent occurrence, and always attended with some relief, whilst escape of gas "*per anum*" was the rare exception. I fear this communication has run on to too great a length; but as a case must be of rare occurrence where a person professionally qualified to interpret the symptoms becomes the subject of this disease, the elucidation of which depends so much upon the subjective phenomena, I thought I should not omit anything of even collateral import.

"P.S.—Since writing the above, I have found in the gall-bladder of a subject in the dissecting-room about twenty biliary calculi, presenting the same characters as that described in my case. I send you a few of them. Shortly previous to the final cessation of the pain, I experienced a burning sensation along the outer and upper edge of the right rectus muscle."

Dr. H. Kennedy remarked, that, though the suffering in the *Passage of a Gall-stone* was intense, it was rarely attended with danger to life. Exceptional cases, however, did occur; in proof of which, he alluded briefly to the following instance:—"A woman, thirty years of age, suddenly complained of severe pain referred to the stomach, and region of the liver. With this she experienced slight sickness; but she was not confined to her bed, and had eaten some breakfast. Her bowels being confined, she was ordered an oil draught, with laudanum and stupes. The next day she was found lying on her right side, complaining of severe pain over the liver. It was observed that very great difficulty was experienced in turning her in bed. The endeavour seemed to cause agony. Pressure over the liver could not be borne in the least degree; though it gave no uneasiness over any other region of the abdomen. She had retched, but not vomited, three or four times within the last twenty-four hours, and the bowels had been once moved. The pulse was quiet, but the tongue was furred, and there was some heat of skin. Leeches, with calomel and opium, were ordered, and also an enema. These means afforded no relief. Matters went from bad to worse,

and the patient died thirty-six hours later; that is, something under four days from the time she first complained. Before the abdomen was opened, a very distinct tumour was observed in the region of the liver; it was oval, between three and four inches long, by two broad; fluctuation was doubtful; on opening the abdomen the tumour was found to be the gall-bladder, very considerably distended, and containing healthy-looking bile; its coats were thickened by an effusion of lymph, evidently of very recent formation; whilst all round, though strictly confined to the region of the liver, lymph had also been poured out in very considerable quantity. There was no serous effusion. The cause of this localized inflammation was found to be a gall-stone impacted in the cystic duct. It was not the form of biliary calculus, but was very like a piece of cinder, its colour being jet black, its specific gravity very low, whilst from its surface projected three or four points, like horns; its form reminding one strongly of that taken by those calculi which are often found in the kidney. The site of the calculus was marked, on the serous surface, by the greatest intensity of the inflammatory action, and a body more likely to excite inflammation than this calculus could not well be imagined."

Fifth Meeting, March 5th, 1856.

Dr. Montgomery gave a description of a case of singular *Deformity of a child at birth*[a].

Dr. Law read a paper on *Pericarditis*, and explained some views of his own relative to the diagnosis of *Complete Adhesion of the opposed surfaces of the Pericardium*[b].

Sixth Meeting, April 2nd, 1856.

Dr. Moore read the following paper upon *Strumous Peritonitis*:—

"I know of no disease more difficult of diagnosis, or more frequently confounded with other affections, than the above form of phthisis, especially when it manifests itself slowly and insidiously in a subacute form, as it generally does.

"The acute stage of this disease is comparatively easy of diagnosis, and obeys somewhat the same laws in its symptoms and treatment as ordinary peritonitis. The following remarks are intended to portray this malady when it occurs in a chronic, and, consequently, more insidious form. In one of such cases the following symptoms may be evinced:—The patient has a furred tongue, which may be attended with slight thirst and loss of appetite, especially for breakfast; the pulse may be perceptibly quicker at times; and there may be a sense of uneasiness in the umbilical region, together

[a] Published among the original communications in this Number.
[b] To be published at length in the next Number of this Journal.

with a feeeling *as if the clothes were too tight*, or, as Dr. M'Clintock has termed it in a case recently recorded by him, 'a vague uneasiness in the belly.'

"After the least exertion the patient feels languid, and disinclined to go up or down stairs; a dewy perspiration on awaking in the morning is observed, and, after a time, a sunken look about the eyes, with loss of complexion and apparent wasting, which is particularly to be observed in females, under the clavicles. The abdominal uneasiness now begins to amount to actual pain, and is accompanied with diarrhœa, attacking the patient at somewhat regular periods, for example, on awaking in the morning, and also in the afternoon. At this stage there may, or may not, now, be pain on pressure, and sensible tumidity. The anorexia, emaciation, hectic flushings, progress apace, and the patient begins to cough; then occur hemoptysis and its consequence. These symptoms may thus gradually steal in, and extend over a period of from three months to a year.

"In another case there may be pain of a griping character, accompanied occasionally with diarrhœa and derangement of the secretions in general, as the first tangible feature of the disease, and then we find a furred tongue, quick pulse, loss of appetite, thirst, pain on pressure, and tumidity of the abdomen. With such symptoms, in an apparently healthy patient, one concludes that they are dependent on deranged biliary secretion, and prescribes alteratives, which may tend to improve the tongue, and allay intestinal irritation. Still the abdominal pain recurs at intervals, and the pulse is accelerated with occasional hectic flushes. Opiates and counter-irritants are applied, but without any decidedly good results.

"In such a case further advice is naturally looked for; and then all the annoyance is accounted for by scybalous lodgments in the colon; and purgatives are had recourse to, but without any good effect. Now the pain is laid at the door of neuralgia; antispasmodics are exhibited, and although there may be cough, it is considered of no moment, notwithstanding it should alternate with the abdominal symptoms,—all is a part of the neuralgia. Yet the pain is persistent, and if the patient is a female, the 'fons et origo' of the disease is found in ulceration of the os uteri. Your patient undergoes the necessary topical treatment, and from her general anemic appearance is put on ferrugineous preparations, which, in many instances, add fuel to the flame.

"The gradual wasting and pallor is progressing, the cough becomes more troublesome, and the sputa tinged. At length, attention is directed to the real nature of the disease, and every effort is made to make up for lost time; but, in the *majority of cases*, it is now too late. Such is a faint picture of cases, I may almost say, of daily occurrence. On the symptoms of this disease Dr. Abercrombie makes the following remarks:—'In a very important modification of the disease there is no complaint of pain. The patient merely speaks of a feeling of distention, with variable appetite and irregular bowels, and with these complaints becomes progres-

sively emaciated. In many cases, indeed, the early symptoms are so slight that no attention is paid to them, until the emaciated appearance of the patient excites alarm. The abdomen, on examination, is probably found tumid, and in some degree tender in various parts; and upon questioning the patient, it is found that there has been some degree of pain for weeks or months. In other cases there has been no actual pain, but a feeling of tenderness, which gives rise to uneasiness on pressure, or when any part of the dress is tight over the abdomen; but, in many cases, the disease steals on to an advanced period without any complaint of tenderness or pain.'

"Dr. Kyburz, of Zurich, states, how uncommonly difficult it is to recognise this form of disease at its commencement. According to his observations, 'the disease begins, generally, with a chill, which is then sooner or later followed by the abdominal symptoms.' When the disease is in its early stage, and the deposition of tubercle consists in scattered granulations upon different parts of the peritoneum, and later occupies the superior regions of the abdomen, the belly is puffed up, and of a roundish form.

"If the tuberculosis is propagated from one point (in four cases it was the ileo-cæcal region) the abdomen becomes irregularly distended, and has a doughy and resistent feel. If particular parts are especially involved, various intumescences can be felt, which may readily be confounded with lesions of the spleen, liver, and uterus.

"In connexion with this deposition, and progressive development of the disease upon the peritoneum, the most various and opposite symptoms are called forth: to wit, tension of the abdominal walls, prominence of the liver and spleen, so also of the heart; compression of the lungs, and dyspnœa. The organs also become pressed downwards into the cavities in which they most readily subside; thus, I have found in one case the vaginal portion of the uterus crowded down even to the labiæ. Through pressure of the tuberculated lymphatic glands upon the excretory ducts of the liver, or through pressure of the peritoneal sheets, one against the other (since they include the gall-ducts between them) arises the icteric appearance, and the accompanying coloration of the stools. Disturbance of the urinary secretion from pressure is not a rare phenomenon. In one case, sciatica originated from pressure on the nerves. In reference to the general symptoms we can determine the following rules:—There is usually a slight febrile condition existing, the pulse, even in the morning, being 90 per minute; very often accompanied with colliquative sweats. We observe in the patient emaciation and loss of strength, as well as alteration of the colour of the face, rather paleness with circumscribed redness of the cheeks, than the yellow colour peculiar to carcinomatous affections.

"Out of six cases which came under my observation, the shortest duration was four weeks, and the longest, six to seven months. Five of these cases proved fatal, death occurring from gradual

wasting and complications; ulceration of the intestines was observable only in a single case; perforation in none.

"The following case, I think, exemplifies the subacute form of this disease:—

"M. C., aged 13, having a complexion of a pale leaden hue, and colourless lips, consulted me in the month of July last. Her mother stated, that two months previously she was seized with pains in her bowels, which made her sick and faint. These pains were generally worse in the morning, and were increased by the use of cold food or fruit. She was frequently subject to 'weak turns,' as her mother termed them, during the day, and complained of a sense of feebleness and loss of power of the lower extremities. She suffered also from diarrhœa occasionally, after the accession of the pain, but at other times was of a costive habit. She had no cough. The abdomen presented a slight tumidity, and there was pain on pressure over the epigastric and umbilical regions. Thinking that exposure to cold and wet, with indiscretion in food, might account for the abdominal symptoms, I enjoined the strictest attention to diet, ordered warm clothing, and, above all, that the feet should be kept dry and warm. I prescribed a mixture containing tincture of rhubarb and opium, to be taken when the pain came on, and the bowels were irritable. After some days, the patient again was brought to me; she stated that the medicine had given her temporary relief, but that the pain had returned with its accustomed severity. Accordingly, taking everything into account, the strumous look, leaden hue, enlarged cervical glands, small thready pulse, and general *wasting of the patient*, I suspected that the abdominal glands were especially implicated, and accordingly I enjoined the free exhibition of cod-liver oil internally, and a liniment composed of the same, with ammonia, to be rubbed over the abdomen daily. This treatment was attended with marked improvement: the pains occurred less frequently, and with diminished intensity; the cervical glands sensibly decreased, none of them suppurated, and the patient's general appearance became much improved.

"The next case presented some features in common with the one I have just narrated. The appearance and complexions of the patients were identical, and I was particularly struck with the pellucid or pearly colour of the sclerotic coat of the eye in both cases, which contrasted the more remarkably with the dark blue cornea. This second case was that of a young girl, aged 12, concerning whom I was consulted in the spring of last year. She was remarkably exsanguined, with a foul tongue and a deranged state of the bowels, dejections being liquid and straw-coloured, and she complained of slight cough. The parents of this girl stated that she was occasionally, suddenly, seized with sharp lancinating pain in the belly, which was frequently followed by a free action of the bowels; that nothing seemed to prevent its return, and that she grew daily more and more wasted. I suspected the presence of worms, and prescribed vermifuges, but without any good results. As the

cervical glands were evidently becoming enlarged, and the patient daily more cachetic, I ordered the administration of cod-liver oil in free doses, and combated the occasional diarrhœa with the 'compound chalk powder with opium.' This plan of treatment brought about an improvement in the cough and abdominal symptoms; but the cervical glands kept on enlarging, and at length suppurated. There seemed to me as if a metastasis had taken place from the abdominal to the cervical glands, which latter eliminated a considerable amount of the prevailing mischief. The anemia in this case was more remarkable than in the former case. Concerning the pearly hue of the sclerotic, so remarkable in each of the cases, I may, in passing, remark, that I find Dr. Ancell, under the head of Anemia, in his book on Tuberculosis, makes special allusion to the subject:—

"'The cutaneous tissues,' he says, 'become decidedly more faded or dingy, or permanently pallid, the countenance only being subject to transient flushes. This anemia frequently exists a long time before tuberculosis is recognised as a disease. The lips and gums, which hitherto may have maintained their roseate tint, gradually assume the anemic character, *and the sclerotic coat of the eye, from the modified circulation, acquires a distinct pearly hue.*' Again, 'the anemia of tuberculosis differs from simple anemia. The bloodvessels are not so empty; there is not necessarily that tendency to syncope on assuming the erect position, nor to palpitation, œdema, or effusion. The tissues are dingy rather than waxy, and in this respect it contrasts with the anemia of cancer. The colour of the face varies much according to the temperament of the individual; in those with dark skin and hair, in whom the muscles are firm, the pallidity has a very light leaden tint, and the flush which occurs during excitement is of a brownish red, replacing the leaden paleness.

"I could detail the history of some other and fatal cases of this treacherous disease, which presented symptoms analogous to those I have described; but I regret to say that an opportunity was not afforded me of making a post-mortem examination. In Sir H. Marsh's and Dr. Churchill's papers on this subject are to be found the post-mortem appearances of two cases; in one of which the intestines were adherent to the walls of the cavity. The connecting medium consisted of a thick layer of adventitious membrane, in some parts softened, and presenting small depots of curdy matter. The visceral and parietal layer of the peritoneum were united, and a large cavity was discovered, extending from the upper part of the right lumbar region to the iliac fossa; it was lined with a soft curdy grayish-white substance, and contained about half a pint of thin pus with curdy matter. On the left side a somewhat similar cavity, of larger dimensions, was opened, from which a jet of dark brown fluid issued, very fetid. This cavity was situated between the parietal layer of the peritoneum and the anterior surface of the viscera. The mucous membrane of the large intestines appeared thick, soft, and vascular; submucous glands enlarged, and many of them softened

into curdy-looking substance. The appearances in another case were somewhat identical; the other viscera of the abdomen were apparently healthy. Dr. Churchill details the post-mortem appearances of a case related by M. Billard, in which slate-coloured spots existed in the whole length of the colon; adhesions prevailed between the other intestines.

"Chronic peritonitis, according to Ancell, frequently occurs in tuberculous subjects, as also does chronic pleurisy, independently of the existence of tubercles, bands of adhesion constituting its especial anatomical element. When seated among the convolutions of the intestines, the folds become adherent, serous effusion is also one of its most common results. Those portions of the peritoneum which invest the liver and spleen in many cases become implicated with the pleura in tuberculous peritonitis, but in a minor degree, producing little other effect than adhesion. In a case of chronic peritonitis, resembling those which I have already adverted to, by Sir H. Marsh and Dr. Churchill, Dr. Ancell removed at least two gallons of pus from the peritoneal cavity. He says: 'These cases, undoubtedly of a scrofulous nature, occasionally prove fatal without the deposit of a single tubercle in the lungs or elsewhere.'

"In the treatment of the subacute form of this disease, topical bleedings and counter-irritants may occasionally be resorted to; and should the tongue and deranged state of the bowels indicate it, mild alterative treatment.

"Sir Henry Marsh recommended the system being affected with mercury, and preferred the form of inunction; for which, he combined iodine and mercury in the form of the green iodide, three grains to the half drachm of simple ointment. Of this mode of treatment I can speak very favourably, having seen it exhibited in a female with whose clinical charge Dr. Lees intrusted me some years since, in the Meath Hospital. She was suffering from general debility, with diarrhœa, pain in the lumbar regions, colliquative sweats, with a weak, thready pulse. The ointment, as above described, was rubbed over the abdomen, and the diarrhœa was combated with the compound chalk mixture, together with rice and arrow-root diet. The patient left the hospital much improved. However, of all remedies for the treatment of this affection, I give cod-liver oil the preference. It should be freely used internally and externally, combined with generous diet, pure air, and warm clothing, more especially as regards the feet and lower extremities."

Dr. Lees detailed the particulars of a fatal case of *Jaundice from suppression of the secretion of bile*, which occurred under his care in the Meath Hospital.

"John O'Neill, aged 17, a strong, well-made young man, of dark complexion, with black hair and eyes, was admitted, March 15, 1856, labouring under jaundice. He had been bound to a sea captain some time previous to his admission, by whom, as he states, he had been badly treated, having been beaten, and made to lie out at night without proper covering, and at the same time supplied with

bad food. This treatment brought on great depression of mind, and, for a month or so before he entered hospital, he became subject to the general symptoms of dyspepsia, with impaired appetite. On Sunday, the 9th of March, he first noticed a yellow colour in his eyes, and in a few days he became completely jaundiced. He had no other ailment, beyond a confined state of the bowels.

"On admission (Saturday, 15th) he presented the following symptoms: he is stupid and heavy; skin cool, of a deep yellow colour, and dry; pulse regular, 74; pupils natural; no headach or pain in any region whatever; tongue clean; bowels confined; has had no vomiting or nausea; there is slight tenderness on pressure in the epigastrium; heart acts normally; chest clear on percussion, and respiratory murmur natural. Three leeches were applied to the epigastrium, and a mixture was ordered, containing muriate of ammonia.

"Sunday, 16th. Slept well during the night; bowels moved once; fæces devoid of bile, but urine loaded with it; ordered to be well purged.

"Monday, 17th. Slept much and heavily all the preceding day; during the night he became delirious, jumping from his bed, and shouting. Sometimes he lay tossing and moaning, and appeared to be perfectly insensible. The skin was cool; pupils dilated; and the pulse 130. Ordered four grains of calomel immediately; to have the head shaved, and a blister applied over the vertex. He could not be induced to take the calomel; therefore, two drops of croton oil were placed on his tongue. This moved his bowels once during the night; the stools were solid, and perfectly white. During the whole of this day (Monday) he was violently delirious, and had to be confined in bed with a strait waistcoat.

"Tuesday, 18th. He continued in the same state during the night; but towards morning, fits of convulsions came on, at intervals of an hour or less. The pupils were dilated during the fits; strabismus was present; his body was drawn back as if in opisthotonos; and he passed his urine. The skin was hot and dry, and the breathing stertorous, with puffing of the cheeks. Pulse regular, 130, and heart natural. Ordered two drops of croton oil immediately, and to have a terebinthinate enema administered through the long tube.

"He continued in the same state during the day, only the fits of convulsions became less frequent. An excessive secretion of dirty yellow mucus was thrown from the mouth and nose, with loud rattles in the throat. He died comatose about 5 o'clock P.M. He ate nothing after Sunday morning; and only drank some water on Sunday evening, which was immediately vomited.

"*Examination*, sixteen hours after death.—Externally nothing particular was to be remarked. The body appeared well covered with flesh, and much subcutaneous fat was present.

"*Thorax.*—Lungs greatly congested, especially at their bases; but they crepitated and floated on water; the heart was normal. *Abdomen.*—The stomach was large; semi-vascular patches were observed at the cardiac and pyloric orifices, and also over the mucous

coat of the duodenum; the intestines contained white, putty-looking fæces; the spleen was slightly enlarged, and the kidneys much congested. The left lobe of the liver appeared smaller than natural, particularly in its vertical diameter, so as to be flattened; it was of a pale yellow colour externally, but on incision it presented a bright yellow appearance, and the section looked pulpy, there being no trace of granular texture, but it was not soft or pliable; on the contrary, it felt tough under the knife. The blood in the other parts of the liver was very fluid, pale, and watery. The gall-bladder contained a small quantity of viscid bile, of a bright green colour; there was no appearance of inflammation in it, or in the ducts, which latter were pale and quite pervious. There was much venous congestion of the brain. On submitting a portion of the liver to examination under the microscope, the hepatic cells appeared greatly diminished in size, and there was much fatty degeneration. Mr. Charles H. Leet had made two analyses of the urine, one previous to the occurrence of the cerebral symptoms; the other, subsequently. He also analyzed the blood and fluid procured from the brain after death, and has obligingly furnished me with the subjoined results of his observations.

"*Jaundice from Suppression of Bile.*—No. 1. The urine excreted at 8 o'clock A.M., on the first morning of patient's admittance, presented the following characters:—Dark brown colour; acid reaction; copious deposit of urate of ammonia, coloured with bile pigment; sp. gr. 1022. 1000 parts contained:—

Water,		944·9
Solid constituents:—		
Urea,	23·0	
Biliary matter (including cholic acid),	2·5	
Fixed salts,	11·7	
Organic matter, &c.,	17·9	
		55·1
		1000·0

No albumen was detected.

"No. 2. The urine excreted at 9 o'clock A.M., on the morning before decease, exhibited the following characters:—Deep porter colour; acid reaction; small sediment, of similar composition to the former; sp. gr. 1012. 1000 parts contained:—

Water,		973·6
Solid constituents:—		
Urea,	7·8	
Albumen,	4·2	
Fixed salts,	4·5	
Organic matter, &c.,	9·9	
		26·4
		1000·0

Not a trace of the biliary acids could be discovered in the solids obtained from eight ounces.

"No. 3. Three ounces of blood, which flowed from the cavity of the cranium, had a deep red colour, acid reaction, and deposited a small clot, chiefly composed of red corpuscles. The serum had a sp. gr. 1027. Among its solids albumen was decidedly diminished. Urea was easily detected by the addition of nitric acid to the solid residue, after repeated purification in alcohol and ether, the characteristic crystals of nitrate of urea gradually becoming developed on the surface of the fluid. 1000 grains of serum contained 6·5 grains of urea.

"The presence of the biliary acids was satisfactorily determined, for, on treating the serum by a difficult process (similar to that employed for their detection in urine, as described in the Dublin Quarterly Journal, November, 1854), there was obtained a very small quantity of a dark brown semi-gelatinous substance, of an intensely bitter taste, and yielding the characteristic violet red coloration, with a weak solution of sugar and sulphuric acid (as employed by Pettenkofer).

"Three hours after this analysis the serum had a strongly alkaline reaction, while carbonate of ammonia was freely disengaged."

Dr. Lees remarked that this case was one of that class of diseases of the liver in which jaundice was caused by the non-elimination of bile, owing to the secreting power of the hepatic cells being seriously interfered with; and that it thus furnished another case in proof of the retained excretion of bile being more decidedly and rapidly poisonous to the venous system than the re-absorbed excretion, which occurs in the more usual forms of jaundice from retention of bile, caused by some mechanical obstruction to its passage into the intestine. Dr. Lees proceeded as follows:—"In this case no bile passed into the intestine, not from any obstacle to its passage (for the ducts were pervious, and there was no distention of the gall-bladder or bile ducts), but owing to its elements not being separated from the blood; they were retained in the system, and acted as a poison analogous to what takes place in cases of suppression of urine, or in that condition which we meet with so often in Bright's disease, and which is termed uremia.

"This was evidently a case of that terrible affection of the liver termed 'acute yellow atrophy' by Rokitanski; which is characterized by severe cerebral symptoms,—delirium, convulsions, and coma, by which the disease generally proves fatal; but the precise exciting cause of these symptoms is not clearly understood. There is no doubt but that the phenomena in this disease are owing to the presence of some abnormal matter circulating with the blood, and it has been generally supposed to be some of the elements of the bile, or a decomposition produced by the organic biliary acids. It is well known that in jaundice from retention of bile, biliary pigment is present in the blood in considerable quantity, without occasioning any cerebral disturbance; and in such cases I have often

succeeding in detecting cholic acid in the urine. In the Dublin Quarterly Journal for November, 1854, I have suggested that the severe cerebral symptoms met with in jaundice, from suppressed secretion of bile, might be owing to the presence of cholic acid in the blood, not being eliminated by the urine[a], and I consider the results of the analyses furnished by Mr. Leet, in the present case, are of great value with regard to this question, for in the urine passed the day previous to the occurrence of the cerebral symptoms, cholic acid was detected, the urea was in fair quantity, and no albumen was present; while in the urine passed after the development of the first cerebral symptom, *not a trace* of the biliary acids could be discovered, the amount of urea was greatly diminished, and albumen was present; while urea was found in the blood and serum taken from the brain after death. As to the treatment of this formidable disease, I have nothing new to suggest; Dr. Budd considers that 'active purging' is the chief remedy, and in one case recorded in Dr. Graves' Clinical Medicine, and which was furnished to him by Dr. Hanlon of Portarlington, the patient recovered under bleeding, leeching over the liver, and large doses of calomel, followed by active purgatives. In the present case the patient appeared too low for bleeding, and as he refused to swallow, croton oil and terebinthinate enemata were the only medicines available."

[a] Mr. I. Murray, H. E. I. C. S., who was present at the meeting of the Association when this case was read, has kindly called my attention to the valuable work of Dr. James Ranald Martin, on the "Influence of Tropical Climates," in which the following passage occurs, p. 275:—"Dr. Cathcart Lees, of Dublin, has been led by the examination of the urine of jaundiced patients to entertain the opinion, that the absence of any symptoms referable to the nervous system, in many cases of jaundice, might be accounted for by the presence of cholic acid in the urine, and its consequent absence from the blood." "If the supposition be correct, I think the detection of cholic acid, or its conjugates in the urine, may prove a very important element of prognosis in every case of jaundice, as assuring us against the supervention of cerebral symptoms in cases where it is present, while, if absent, it may put us on our guard, and possibly enable us to adopt a prophylactic treatment."

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

(*Continued from* Vol. xx. p. 215.)

SESSION 1855-6.

First Meeting, December 18th, 1855.

Dr. Beatty opened the Ssssion with a memoir containing an account of the practice of his father, the late Dr. Beatty.

Dr. M'Clintock made the following communication upon the fatal symptoms occasionally supervening on the *Deligation of Uterine Polypi.*

"It is a too prevalent notion that the deligation of uterine polypi is an operation not only highly effectual for the extirpation of these growths, but one that is also perfectly safe. This we may in a great measure attribute to the influence which the writings of Dr. Gooch, a warm advocate for the practice, has had on the opinions of practitioners. He goes so far as to say, that 'the only danger attendant upon the operation is, that the ligature may include a portion of the uterus.' But, as I hope to show in the sequel, this is by no means the only or even the ordinary source of danger. Some few cases have been published, in which this operation was followed by dangerous or fatal symptoms, and I think it is very probable that more have occurred, but that a fear of incurring the imputation of unskilfulness has deterred the operators from making their histories public. If there really be danger connected with this operation, its cause or source should be sought for and investigated; and its degree should be fully appreciated, in order that the value of the operation itself may be rightly estimated. This, however, cannot be done as long as these unsuccessful cases are withheld. In the present state of this question, then, I feel it is of far greater importance to record the histories of fatal than of successful cases of this operation. I venture, therefore, to bring under the notice of the Society the particulars of two such cases, which have fallen under my own observation within the last twelve years: and also of a third case, which was obligingly communicated to me by our excellent Secretary, Dr. Sinclair.

"I have already said, that a few instances have been recorded, in which the removal of uterine polypi by the ligature and canula was followed within a short period by the death of the patient. In St. George's Hospital, London, Mr. Babington lost a patient from phlebitis, soon after the removal of the ligature; a case of a similar kind occurred to M. Blandin. Dupuytren met with eight or ten

fatal cases, presenting symptoms of phlebitis. Mr. Abernethy states that he has opened the bodies of several women, who have died from ligature of the uterus. Dr. Robert Lee, in his 'Clinical Reports upon Ovarian and Uterine Diseases,' reports eight fatal cases succeeding to the application of ligature. Seven of these deaths followed the removal of the tumour, and, in one instance, death took place before this event. The apparent causes of death in these cases were various: *two* patients died of peritonitis, and in one of them there existed abscesses in the ovary; *one* died of pyemia or diffuse inflammation; *one* of collapse from excision of the tumour (subsequently to applying the ligature), which may have been an inverted uterus; *one* from sudden sinking and dyspnœa; *one* from diarrhœa and aphthæ; *one* with coma and other head symptoms; and *one* of debility. I would just wish here to remark, that the inclusion of a portion of the uterus in the ligature is such a plain and obvious source of danger, that I omit any further mention of it in the present inquiry. The cases recorded by Hunter, Denman, and Gooch, along with many others which might be adduced, amply prove the correctness of this assertion. To resume, however, the late Dr. James Hamilton of Edinburgh, details, in his 'Practical Observations,' the histories of three cases of death succeeding to the extirpation of uterine polypus by the ligature. In *one* of these, the patient died of violent enteritis; in the *second* case, death took place with symptoms which were considered to indicate the existence of enteritis; and in the *third*, death occurred rather suddenly and unexpectedly, with 'delirium and an affection of the breathing.' Dr. Simpson tells us he has seen a woman die with a ligature still fixed around the partially divided neck of a uterine polypus. Lastly, in the Cyclopædia of Practical Medicine[a], and the work of Boivin and Duges, will be found notices of four deaths from irritation and uterine phlebitis after deligation of uterine polypi.

"The fatal cases which have come within my own knowledge, I shall now briefly narrate.

"Case I.—M. H., aged 38, was admitted into the chronic ward of the Lying-in Hospital, January 14, 1846. Had one child many years ago. Last September she began to have irregular hemorrhagic discharges from the vagina, which have continued increasing up to the present time. She is debilitated, and of a sallow, unhealthy aspect; upon internal examination, a polypus about the size of a hen's egg was found protruding from the os uteri, and occupying the upper part of the vagina, which was unusually long and contracted. She suffered no pain when the tumour was manipulated, nor previously; neither was there any pain or perceptible tumour in the hypogastric region.

"On the 16th, I applied a ligature of silk fishing-line around the neck of the polypus, by means of Gooch's canula: when tightened she made no complaint of pain, and the top of the canula was

[a] Vol. iv.

not within the margin of the os tincæ. On the fifth day the ligature and tumour came away; the latter was very white, and rather soft. The only unfavourable symptoms that presented themselves, up to this period of the case, were a rapid pulse and tympanitic state of the abdomen. On the sixth day after the removal of the polypus her pulse was still rapid; tongue rather dry and brown towards the centre; and there was a tendency to diarrhœa. In the right iliac region was a defined tumour, about the size of a small orange, and tender to the touch. This tumour gradually extended towards the left side, accompanied by tenderness and some abdominal pain; her nights were bad; the pulse constantly above 120; the tongue dry and brown; total failure of appetite, and increasing debility, so that she died on the eighteenth day from the removal of the tumour. A careful examination of the abdomen was made fourteen hours after death. There were general marks of peritoneal inflammation, with lymphy and serous effusion, especially towards the lower part, where the viscera were closely cemented together. In each iliac region was an elastic tumour, closely attached to the uterus, rectum, and adjacent parts; when opened, they discharged a few ounces of yellow, inodorous, puriform matter. The body of the uterus was somewhat elongated, and its walls a little thicker than natural; the cervical canal presented dilatation and vascularity up to the line of junction with the body, where both abruptly ceased, indicating probably that the polypus had sprung from the interior of the cervix. The uterus presented no other abnormal appearance. I may be excused, perhaps, for offering some rationale of this woman's case, in order to account for the fatal issue. She was in a broken state of health at the time of the operation, and sufficient means may not have been used to alter and improve it. There was a disposition to morbid action, wherever an exciting cause was applied; soon after the tying of the ligature symptoms of 'constitutional irritation' were induced; inflammatory action, rapidly ending in suppuration, showed itself in the course of the absorbents leading from the uterus to the iliac region; the peritoneum subsequently became affected, and the vital powers rapidly gave way under the accumulation of local and general morbid influences. Such is the view I feel disposed to take of this case. So far as *physical conditions* went, it was a suitable one for operation; but the *vital conditions* were unfavourable. It is a fair question for discussion, whether excision would not have been a better means for removing the tumour, and have held out a better chance of success. I do not feel competent, from my own experience, to decide upon this, though my convictions incline me to the affirmative side.

"The next case which I shall relate bears considerable resemblance to the foregoing one, in the morbid appearances.

"Case II.—C. S., a widow, aged 28, was admitted into the chronic ward of the Lying-in Hospital, November 20, 1855. Had one child, now eight years old, and subsequently had four miscarriages. Three years ago she began to suffer from pelvic pain and

uneasiness, and was under treatment for uterine inflammation and ulceration in New York, where she then resided. During the last twelve months she had more or less sanguineous discharge, and for the last six months this has been rarely absent. She looks sallow and very anemic, and suffers from constant pains and uneasiness in the uterine region. A large polypus, with a very thick pedicle, occupies the vagina; the os uteri is felt very distinctly encircling the neck of the polypus. On the 29th I put on a ligature with Gooch's canula; she experienced some pain when it was drawn tight. The vagina was syringed daily, after each time that the ligature was tightened; on each of these occasions she complained of a good deal of uneasiness. In five days the ligature and tumour came away; the polypus was as large as an orange, and weighed nine ounces (avoirdupois); it was tolerably firm, and composed of fibrous and fibroid tissue, the latter bearing a close resemblance to the proper tissue of the unimpregnated uterus.

"I made a vaginal examination some days after the falling off of the tumour. The os was very open; the body of the uterus felt large, and the entire organ seemed rather fixed and immovable in the pelvis. She complained of weakness and continued loss of appetite, and of a pain near to the anterior-superior spine of left ilium. About the 5th December she had a slight rigor in the afternoon. She continued in an unsatisfactory state; the pulse rapid; no appetite; on one or two days she had some bilious vomiting, which she said she was subject to. On December 15, at 10 o'clock A.M., she got a weakness, succeeded by symptoms of collapse, with vomiting which soon assumed the coffee-ground character. In twenty-three hours from this time she expired, apparently from intense peritonitis, brought on by some internal rupture or perforation.

"*Autopsy.*—Extensive recent peritonitis; enormously thick, strong bands of lymph in the pelvis, marking the existence of former or chronic inflammation of the serous membrane; considerable swelling and induration in the left broad ligament, closely connected with the uterus; this tumour contained purulent matter; the rectum and uterus were cemented together; in the *cul de sac* of peritoneum, behind the latter, was a small aperture, that would about admit a goose-quill, and this opening communicated with an abscess which was a continuation of that to the left of the uterus; the walls and interior of the uterus seemed perfectly healthy; a little roughness in the lining membrane of right cornu, was the only appearance that indicated the exact situation from which the polypus sprang. The entire contents of the pelvis are now on the table, for the inspection of members. The most superficial examination of the specimen will be sufficient to show that chronic inflammation had been going on in the neighbourhood of this uterus, for months at least, and that the immediate cause of the attack of fatal peritonitis unquestionably was the perforation of the retro-uterine abscess, and the consequent escape of some of its contents into the peritoneal cavity.

"Could I have been aware of the existence of this chronic inflammation of the structures immediately surrounding the uterus, I certainly would have refrained from performing the operation, unless her life actually hung upon it. On the other hand, it may be urged, that the fatal peritonitis was not an extension of inflammation from the uterus, but was the result of an extremely rare accident (perforation), and one quite out of the usual course, so that its occurrence ought only to be looked upon as a very remote contingency.

"The last case which I have to communicate is unsatisfactory, in so far as that the cause of death remains enigmatical.

"The patient was a large, fat woman, aged about 40 or 45; she was of rather a dark, swarthy complexion; she had lost a good deal of blood from time to time, though not much latterly. Through the kindness of Dr. Shekleton, under whom she was a patient in the chronic ward of the Lying-in Hospital, I had an opportunity of examining the polypus. It was enormously large, filling up the whole vagina; it was insensible; smooth in the surface, and by no means hard, but, on the contrary, rather doughy in consistence: the tumour seemed to grow from the interior of the uterus. On the 6th of June, 1853, Dr. Sinclair applied a ligature around the neck of this tumour, the woman being at the time under the influence of chloroform. The ligature was retained by means of Gooch's canula; a good deal of difficulty was experienced in the operation, in consequence of the great bulk of the tumour, and the distance of its pedicle from the os externum. The presence of the ligature did did not seem to occasion any amount of pain or uneasiness; strict attention was paid to the patient, and the vagina was daily syringed with tepid water; nevertheless, a low kind of fever ensued, with a dry tongue and rapid feeble pulse; and in about three days after the operation the woman died, the ligature being still around the neck of the polypus. I had myself an opportunity of examining the pelvic viscera in this case, after their removal from the body. The ligature was found accurately applied around the pedicle, which was about the thickness of a man's thumb, and intimately identified with the tissue corresponding to the fundus uteri; there was not the slightest attempt at separation; the body of the organ was not at all enlarged; there was some slight ecchymosis of that part of the vagina with which the canula had been in contact; no inflammatory appearance was found in the belly. In this instance, I think the fatal termination is to be ascribed to the low irritative fever which ensued upon the application of the ligature, and which rapidly exhausted the vital energies.

"The cases I have now detailed, and those which I have adverted to, justify our drawing the following general conclusions, as to the occurrence of death after tying uterine polypi:—

"1st. That death may take place before the ligature has cut through the neck of the polypus, even in cases where this has not been unusually delayed, and where no part of the uterus has been included in the ligature.

"2nd. That in some cases death has taken place in consequence of the supervention of peritoneal inflammation.

"3rd. That in other cases the ligature has given rise to genuine uterine phlebitis, which has proved fatal.

"4th. That a fatal termination has in many instances been brought about by a kind of low irritative fever, or state of 'constitutional irritation,' which the presence of the ligature has set up. It is probable that this state of the system depends upon the absorption of septic matter, or upon phlebitis; but, in the absence of any direct proof on this point, I prefer using the above names.

"5th. That pelvic cellulitis is a result to be apprehended from the operation of ligaturing uterine polypi.

"Before concluding, I wish to state plainly and expressly, that my object in this communication is *not* to depreciate the ligature as a means of treating uterine polypi, or to put forward any other operation as being more deserving of confidence; but, in the first place, to show that it is not such a safe and harmless proceeding as many of its advocates would have us believe; and secondly, to attempt an elucidation of the causes of a fatal termination succeeding to this operation."

Second Meeting, February 15th, 1856.

Dr. Hardy brought forward three cases to show the importance of particular attention being paid, to the regular returns of *Menstruation* in all forms of female complaints, especially such as are connected with disease of the uterus and ovaries :—

"Case I.—I was called to a patient, aged 40, in August last, when I learned from Dr. Moore that she had been under treatment from the previous day, but without obtaining relief. She was suffering from violent pain in the abdomen, particularly over the right iliac region; there was a good deal of distention ; the bowels had not acted for two days, and the stomach rejected everything; her face had the expression of great distress, was much sunken, and her pulse was very small and weak.

"From these symptoms I was apprehensive of strangulated hernia, but found she had not been ruptured. Various remedies were resorted to in order to relieve pain, to free the bowels and quiet the stomach; but for two days from my seeing her, nothing availed; and the strength, which was fast failing, urgently required to be supported; enemata were returned immediately, without any feculent matter, and medicines by the stomach were instantly rejected.

"It was now resolved to administer enemata containing chloroform, by means of a long gum-elastic tube. The first gave great relief and produced such an agreeable sensation of heat and comfort, that in the course of two or three hours it was repeated. From this time a chloroform enema was given every three or four hours. When she had the sixth, the bowels gave way, and copious alvine

discharges of the fæces followed. In a few days all subsided, and recovery, after a slow convalescence, terminated the case.

"About a month from the occurrence of this attack, I was again consulted on account of a feeling of uneasiness in the uterine region. She had given birth to four children, her youngest being ten years old, and since his birth she had aborted three times. A year since, after having sat on a cold seat, immediately before the return of a menstrual period, she was seized with violent shooting pains in the uterus, preceded by rigors. For the first time she then perceived a small tumour in the right iliac region, which ever since has been the cause of more or less discomfort to her, and from the date of her first attack, until September last, she never felt well, nor free from a sensation of fulness in the pelvis.

"Her illness in August, like the first, took place immediately before 'a period.' She had exposed herself to cold, and felt so ill all the day, that she confined herself to bed. On awaking at 11 o'clock P.M., she had most violent pain in the uterus, which became constant, and was accompanied by rigors and vomiting; menstruation had been for some years past very scanty, but regular in its returns.

"Placing my left hand on the abdomen, and the finger of my right against the os, the fundus and body of the uterus could be distinctly felt; pressure caused pain, and had very little effect in moving the uterus; the edges of the os were thin and considerably indurated.

"In the right iliac region a tumour existed, about as large as an orange, painful to the touch, and evidently connected with the uterus, as could be traced by the finger.

"By the use of iodine, hip-baths, blistering, &c., the general health greatly improved, and in a month there was a marked diminution in the side of the tumour, with a total exemption from all pelvic distress.

"In December last, she was again attacked with pain in the situation of the uterus and right ovary, which was induced by incautious exposure to cold; there was considerable fever, and a good deal of general distress, but not by any means to be compared with what I have already described.

"After the distention of the abdomen had subsided, I was able to feel the tumour, which had increased a little during the illness. I lately examined, and found it so very difficult to detect, that, had I not known the case, I would not have been aware of its existence.

"When I first attended the patient, the painful and distended state of the abdomen precluded the possibility of ascertaining with any degree of certainty the real state of the pelvic viscera; as already stated, the symptoms were such as to lead to the supposition of strangulated hernia, or intussusceptio.

"CASE II.—An unmarried lady, aged about 27, of full plethoric appearance, exposed herself to cold by sitting on a ridge of earth in

an open field, at a time when her menstrual period was expected. The result was, that in a few days after, she had severe pain in the lower part of the back, passing down the posterior part of the right thigh, and the catamenia did not appear. A variety of applications was made to the painful parts, and with the view of causing the discharge.

"About a fortnight passed without any marked improvement. During the most of this time, moving the limb caused severe pain in the neighbourhood of the hip, and distressed the patient so much that she was for the greater part of it confined to her bed. At length the catamenia became established, when immediately all the painful sensations were greatly mitigated, and recovery steadily took place.

"She commenced at first to move about on crutches, and at length was able to go without their assistance.

"Case III.—In December last I attended a lady who had twice aborted, and had brought forth a premature dead child. In her labour I was struck with the unusual severity of her sufferings, and with the extreme degree of pain, complained of during a vaginal examination. But for the inhalation of chloroform, the distress on each return of uterine contraction would have been beyond endurance.

"Her child, a female, was born at the full term, strong and healthy. While convalescing, she suffered greatly from itching, caused by aphthous ulceration of the mucous membrane of the labiæ. Lotions healed the ulceration, and were most grateful in soothing the distressing sensations.

"A month after delivery, I was consulted for a most distressing sensation, which the patient said she could not describe. It came on every evening at a particular hour, and continued for about the same time. The external parts felt as if swollen; there were uneasiness and itching more or less, but so great was the uneasiness that she had constantly to change her position, in the vain hope of obtaining ease. She was in bed when I saw her, and in a most nervous, unhappy state at the thought of having a return of her complaint towards evening.

"On examination I found the os uteri excoriated, and the cervix inflamed. There was no ulceration of the labiæ; but the mucous surfaces were inflamed, and a large vein ran along the left labium. I applied the solid nitrate of silver to the excoriated part, and prescribed the use of lotions and hip-baths. It was particularly urged upon me to prevent the evening attacks, and for this purpose I directed the vapour of chloroform to be thrown into the vagina, by means of the douche, some time previous to the expected hour of suffering. Under this treatment considerable improvement took place, and in all respects she was doing well; but after walking one day more than usual, she had in the evening a most severe return of her sufferings; however on using the chloroform vapour freely, all inconvenience was removed.

"The treatment she is now undergoing consists of cold hip-baths

and astringent lotions, which are to be persevered in, save during a menstrual period.

"I saw the subject of this case to-day: the os uteri is perfectly healed; the aphthæ are few in number, and confined to the edge of the labiæ; the irritation has as yet to be quieted by the chloroform douche, which has not lost its efficacy in giving relief. The cold hip-bath is found most grateful, but it has been used for four or five days only, so that there has not been sufficient time for its full effects to be produced.

"With regard to the circumstances connected with these cases, it may be remarked, concerning the first, that the violent and constant vomiting seems worthy of particular attention. The distention from flatus was so distressing, that, to relieve it, the long tube was passed up the intestine, but only succeeded partially; what gave the most decided and immediate ease was chloroform in the way described. The first two enemata consisted of two drachms of chloroform, mixed with olive oil, and decoction of barley; subsequently the chloroform was reduced to a drachm and a half. The relief afforded was most remarkable and instantaneous; and in a case such as this, in which the combination of an anæsthetic, carminative and purgative was required, chloroform seemed of all others best suited to answer the purpose. Turpentine, assafœtida, and several other medicines, were first had recourse to in the form of enemata, and calomel and croton oil were given by the mouth, but no amendment followed.

"As chloroform mixes intimately with olive oil, it was not necessary to use the yolk of egg, as in giving turpentine. It is well, when prescribing it, to direct, that a proper quantity of oil be united with it, by the means of which the very unpleasant scalding heat of the anus, arising from the contact of the chloroform, is prevented. When from any accidental circumstance this effect *is* produced, a sponge moistened in cold water, and applied to the part, will very soon remove the inconvenience.

"The future progress of this case is also remarkable. I could distinctly feel the outline of the tumour in the right iliac region, in the situation of the ovary, and I could trace it to the body of the uterus. It was painful on pressure, and hard to the touch; it diminished in size as the health of the patient amended; and when last she had an attack, its volume was increased; however, when I last examined, there was no trace of it, and the general state of the woman is much improved, to all appearance she looks perfectly healthy.

"The second case, in some respects, resembles the first, as in it also the attacks were induced by exposure to cold when about to menstruate. There was a good deal of nervous irritability present, as might have been expected. On one occasion she obstinately refused to get out of bed, when urged by her attendant, pleading as an excuse her inability to so much exertion; which, after a little time, and when left to follow her own inclination, she was able to

accomplish. On another, she walked down stairs, after having, an hour previously, stated her incapability of so doing.

"That her disease was greatly aggravated by derangement of the uterine functions, the progress of the case fully proved; as no sooner did the catamenia return, than there followed amendment in all the symptoms, with progressive and steady improvement. Pressure over the course of the sciatic nerve was in the early part of her complaint very painful; when this was relieved, the irritation was more general. I had this lady under treatment some years ago for a weakness in the loins, which prevented her from walking.

"The pain remarked during the labour in the third case led me to suspect inflammation of the parts, such as was afterwards observed. As the patient had placed herself under my care on account of the unfortunate termination of her former pregnancies, I directed the use of cold hip-baths, which she had taken until nearly the termination of uterine gestation. They were of great benefit in strengthening her generally, and I also think they prevented the veins of the labium from enlarging. That it was the enlarged condition of the veins in the labium, as well as inflammation of the labiæ, which produced so much distress on the evening of the day that this patient had walked so much, I was fully convinced, as she directed my attention particularly to one anteriorly, which projected so much that it must have suffered from friction against the opposite labium, which latter, being inflamed, contributed greatly in adding to her distress.

"The immediate and lasting relief afforded at this time by the chloroform douche was most gratifying. Pruritus of the vulva is a complaint which irritates and annoys patients exceedingly, as every one who has met with severe instances of it must be well aware. I perfectly remember the unhappiness and anxiety of a girl aged nineteen years, who was in the chronic ward of the Rotundo Hospital some years ago with this affection. On her admission she could scarcely stand at rest for one minute; and, when unwilling to apply her hands before any person, would be forced to cross her legs repeatedly in order to procure relief. The above case shows how comfortable she too might have been by the application of chloroform vapour. The case detailed is not the only one of pruritus in which the chloroform gave relief. I have met with several."

Dr. Hardy then gave the following history of a case of *Uterine Polypus*:—

"The patient was an unmarried woman. She had suffered greatly from uterine hemorrhage for about a year before she came under my care, and several ineffectual attempts had been made to apply a ligature. These trials had given her so very much pain, that she dreaded any repetition of them. The polypus was about as large as a small pear, and it grew from the edge of the os uteri.

"By means of a small-sized speculum I passed a ligature round it, with Gooch's canula, without any difficulty, and much to the

patient's satisfaction. On the fifth day it came away; and the os uteri, which had been patulous, felt more contracted, and was quite free from uneasiness when pressed by the finger. Several hard tumours, of a fibrous consistence, could be felt through the abdominal parietes, studding the substance of the uterus, particularly its anterior wall. In a few days, after a most satisfactory recovery, the woman went away, and I heard nothing of her till the 26th of January last, when I received the following letter. She says:—'My monthly courses are regular; the quantity more than natural, but not nearly so bad as before the operation; the white discharge is much better. The only unpleasantness I now feel is that of an internal uneasiness, which I cannot well describe, in the right side of my bowels, just at the navel, and in the leg of the same side. I can feel no lump; but at times there is a soreness which even the weight of my clothes annoys; walking also affects it. I have taken the cold hip-bath daily, and used the tincture of iodine externally, which removes the soreness for a time.'

"From this report I fear that the tumours are beginning again to annoy her; and although hemorrhage is not so bad as previous to the removal of the polypus, yet the soreness she speaks of seems as if we might expect at some future time that the frequent losses would be again renewed, and perhaps another polypus require removal.

"Being an unmarried woman, the vagina was very small, which was the reason of so much difficulty having been experienced, and of the failures in the country when attempts were made to pass the ligature. In using the speculum, I did not introduce it so that the polypus should fall into it, as the speculum was too small to admit of this; but I kept it at a little distance, just sufficient to allow the tubes of the canula to move freely while placing the ligature round the pedicle.

"I am quite certain that to have tied the polypus, without the use of the speculum, would have been not only very difficult, for the reasons already stated, but, owing to the highly sensitive state of the parts, would have also been attended with very severe pain. The pale and bloodless appearance presented by the patient when I first saw her indicated in the strongest manner how great had been the hemorrhages.

"To have arrested the loss of so much blood by the removal of the polypus, independent of any greater benefit, was in itself sufficient to prove the success of the operation; for although, as is stated, the monthly periods are more in quantity than natural (the tumours in the uterus may account for this), to have no loss in the intervals of menstruating, and then only more than the woman was formerly accustomed to, would fall very far short of inflicting anything like the same debilitating effects as those wasting and constant discharges did, while this growth remained attached to the os uteri.

"This case in its results, although so far successful, sufficiently

shows the necessity of observing caution as to the certainty of perfect recovery being held out to the patient or her friends, when it is necessary to explain the need for operation, and the expected benefit to be derived from it."

Dr. Jennings read the following account of a case of *Puerperal Convulsions*:—

"A. L., aged 36, a robust and apparently healthy woman, whose previous labours had, without exception, been easy and uncomplicated, being about five months advanced in this her seventh pregnancy, was attacked with convulsions on Friday, January 11, 1856. The first seizure occurred at 7 A.M., between which hour and the time of admission into the Rotundo Hospital, 2 o'clock P.M., she had sustained eight fits, all of them having been very violent in character. Her manner on admission was exceedingly wild and maniacal; and though at that time free from convulsion, she was with great difficulty restrained in bed. The os uteri was perfectly closed; but no information as to the vitality of the fœtus could be obtained, in consequence of the patient's great restlessness. In about half an hour a very violent attack occurred, during which the face became hideously distorted, and the entire head and neck distended by congestion, all to a greater extent than I had ever previously witnessed. The surface of these regions became perfectly black, and caused me seriously to apprehend the rupture of some vessel. She was instantly bled to about ten ounces, and a turpentine enema was administered immediately after. A bolus of calomel and jalap, followed by a purging draught and a similar enema, had been given in the early part of the day, but failed in producing any effect. The hair was also removed, and cold applied to the head. The urine, when tested by heat and nitric acid, was found to be nearly three-fourths solid. Its specific gravity was 1035, and it was exceedingly high coloured. From 2 o'clock P.M. to 10 P.M. she had four fits, all of the same violent character. At this hour, as the head midwife was about to administer a sedative enema, the fœtus, with the membranes unbroken, together with the placenta, were suddenly and unexpectedly expelled. During the course of the night twelve additional paroxysms occurred, but they were less severe and of shorter duration than the previous ones. At morning visit her manner was quite collected, and she answered questions readily and rationally. The urine drawn off the same evening (Saturday, 12th) yielded to the former tests only a hazy cloud, and the specific gravity had fallen to 1030. On the following morning (Sunday, 13th) not the slightest trace of albumen could be detected, and the specific gravity had further fallen to 1010. During the evening of this day she complained, for the first time, of acute pain under the right mamma, besides which the tongue was foul, the face flushed, the skin hot and dry, and the pulse had risen to 120. She was ordered six grains of calomel, three grains of James' powder, and four of Dover's.

"Early on Monday, the 14th, the pain not having been relieved, and dry sibilant rales, with occasional fine crepitus, having been detected at the base of the right lung, she was dry-cupped over the entire side, and ordered to have wine and beef-tea. The specific gravity of the urine had now re-ascended to 1026, and it was highly sedimentous; the yellow-coloured deposit, however, completely disappeared under the action of heat, after the lapse of some hours. Later in the day, respiration having become hurried and distressed, and the rapidity of the pulse having increased, she was ordered a grain of calomel, the sixth of a grain of tartar emetic, and three grains of Dover's powder, in a pill, every hour, and the entire side was covered with a large blister. Under this treatment the dyspnœa and pain were greatly relieved, and expectoration of viscid mucus, tinged with blood, was established; the pulse also fell a few beats, and had improved somewhat in general character. This improvement was only transitory; for, notwithstanding the constant administration of wine, beef-tea, and diffusible stimulants, dulness soon afterwards became manifest in the lower and posterior part of the right lung. The other parts of the lung, in which previously the respiratory murmur had been tolerably distinct, gradually became implicated; and soon no sounds, save bronchial respiration and œgophony, remained audible: the sputa assumed the characteristic rusty appearance.

"In this condition, the symptoms gradually becoming more and more aggravated, she lingered until 7 o'clock in the morning of Saturday (the eighth day after admission), when she sank. The autopsy disclosed the right pleural cavity filled with serous fluid; both layers of pleura were thickened and adherent on the left side, and the pleura costalis covered in the subclavicular region with a layer of greenish-coloured lymph. The right lung was considerably compressed by the effused fluid, and in a state of complete hepatization; the base of the left lung was somewhat congested, and by some thought to be slightly granular; this latter change, however, was not apparent either to my co-assistant or myself. The kidneys were slightly enlarged, but otherwise did not present any marked change of structure.

"When looking for the exciting cause of these convulsions, my suspicions were at first strongly directed towards the kidneys, and I thought that these fits depended on either acute congestion, or perhaps some more chronic affection of these organs. This view was strengthened by the unusually early period of pregnancy at which the seizures had occurred, rendering it improbable that they had any immediate connexion with the gravid state. I was induced, however, to change my opinion on account of the marked decrease in the severity of the paroxysms after the uterus had been relieved of its contents; and again, the rapid restoration of the urine to its normal appearance and composition after this event had occurred. When we consider these facts, and also the absence of any marked disease in the kidneys, I cannot help thinking that eclampsia was

here induced in the ordinary way, viz., by some obscure derangement of the sympathetic nervous system, resulting from pregnancy; and that, had it not been for the unfortunate occurrence of the pleuro-pneumonia, the issue of the case would not have been fatal, or that the convalescence would have varied in its progress from that of an ordinary case of puerperal convulsions terminating favourably. The other features of interest connected with this case, in addition to the unusually early period of attack, are the unusual coexistence of albumen with a high degree of specific gravity; and the no less strange circumstance of the density of the urine subsiding to a point, even far below the standard of health, *pari passu* with the disappearance of the abnormal constituent; in direct opposition to the general law, that these conditions always occupy an inverse ratio to each other."

Dr. Jennings also related the two following cases of *Forceps Delivery*, taken from amongst those recently delivered by means of this instrument, in the Rotundo Hospital, under the observation of the master, Dr. M'Clintock. He brought them forward because they served to illustrate, in a striking manner, the invaluable assistance afforded by the forceps, in bringing to a happy conclusion cases, which, not admitting of further delay from a proper regard to the safety of the mother, the attendant would have been compelled, were it not for their possession, to terminate the labour by sacrificing the fœtus. These cases occurred in succession, and, up to the evening of the meeting, were the last forceps deliveries in the hospital:—

"Case I.—M. D., aged 32, her second pregnancy, was admitted at 5 o'clock A. M., on November 25, 1855, labour having commenced about 11 o'clock on the previous evening. At morning visit I found the os uteri fully dilated, the membranes ruptured, and head resting at the brim. A diminution could be detected of the conjugate diameter, the promontory of the sacrum admitting of being touched by the middle finger. On making inquiry of the woman, she told me that her former labour had been exceedingly long, and that she had been at length instrumentally delivered of a dead child. This account was confirmed by the attendants, to whom she was familiar, from the circumstance of having been attacked by mania, after a very difficult delivery, about three years previously; which delivery had been effected by craniotomy, after an inefficacious trial of the forceps. Strong expulsive uterine action set in, which soon forced a small segment of the head within the true pelvic cavity. In this position it remained throughout the entire day, notwithstanding the continuance of regular and exceedingly strong pains, the only alteration being the formation of a large scalp tumour. About 9 o'clock P. M., finding that the patient had become exceedingly restless, I might almost say maniacal, unceasingly getting out of bed despite the restraint of the nurses, I administered a full dose of laudanum, which

had the desired effect of shortly arresting all uterine action, and inducing a state of temporary quiet. The scalp tumour was now found to have enormously increased; so much so as almost to reach the perineal floor, and at first, indeed, caused me to fancy that some progress had been effected. The pulse had ascended to above 100; the tongue had become dry, and the discharges olive-coloured and exceedingly fetid. Her instant delivery was therefore determined on, the only subject of debate being, how this should be accomplished. Her previous history, added to her present state, strongly pointed to the perforator; but as the fœtal heart was yet audible, it was decided to make a prior trial with the forceps; accordingly, she was placed under the influence of chloroform. The first or (as the woman lay on her left side) the upper blade was easily introduced, but some difficulty was experienced in the region of the left sacro-iliac syncondrosis, as the opposite one was being passed, and as I was insinuating the fingers of my left hand further up the pelvic cavity, in order the better to guide the blade to the left side of the sacral promontory, I was unpleasantly startled to find that I displaced the head from its position, and pushed it further up towards the brim; I managed, however, to adjust the blades, and lock them. After one or two powerful efforts, the head completely entered the cavity with a sudden and marked jerk, so great as to unlock the blades. These were easily relocked, and with very little subsequent efforts of mine, a living child, weighing 7 lbs. 11 oz., was extracted. The head and face were greatly swollen and distorted by the prolonged compression. This woman and child recovered without a single bad symptom, and were discharged on the eighth day.

"Case II.—M. O'B., aged 35, a tall and rather delicate-looking woman, was admitted, January 8, 1856, for her first labour. On admission, the liquor amnii was found to have been discharged, and the os just sufficiently dilated to admit the tip of the finger. It was thin, hard, and unyielding; the vagina was dry and undilatable. Purgative medicine having been freely administered, she was ordered a mixture containing tartar emetic and laudanum, with the view to correct this unfavourable state of the parts. This medicine having produced nausea, was intermitted for a time, being subsequently resumed at intervals. The dilatation having only slightly advanced, after the lapse of forty-eight hours she was bled to nearly twenty ounces, and without producing any marked improvement. The parts still retained their former character. The case was closely watched throughout, and examination was forbidden by any save the Master or Assistant. The complete obliteration of the anterior lip was accomplished by the fingers, on Friday the 11th, after a first stage of seventy-seven hours; the pulse was now much quickened, and the woman utterly exhausted by her sufferings: she was put under chloroform. The parietal protuberances had barely passed through the brim, yet the forceps was readily applied, and with the employment of some force the head

was brought down, so as to deliver the occiput, when the forceps were withdrawn, and the complete expulsion of the head was effected by the uterine efforts, *with perfect safety to the perineum.* The child made several vigorous efforts at inspiration, but as the funis was tightly coiled around the neck, and the face livid, it was deemed advisable to cut the former, without the application of a ligature. The effect of this was almost instantaneously evident; the efforts at respiration abruptly ceasing, and the face becoming blanched. In the hurried extraction of the shoulders, which was necessary to prevent the child from being lost by hemorrhage, the perineum suffered considerably. The occurrence of this accident was further favoured by the patient herself, who, just getting from under the influence of the chloroform, became difficult of restraint. Artificial inflation, sedulously continued for nearly two hours, at length succeeded in completely restoring animation; but the child manifested the effects of the hemorrhage for several days, having been weakly, its cries faint, and requiring the constant use of wine-whey. Before the expiration of the week, however, it became an unusually fine child. The most careful examination failed to disclose on the head the slightest mark of the blades of the forceps. The laceration alluded to was attacked in the evening by *superficial* sloughing, but this disappeared in a few days, and the process of healthy granulation greatly lessened the previous gap produced by the laceration. The mother, *who never suffered the slightest abdominal or uterine tenderness*, after a somewhat tedious convalescence, accounted for by an exceedingly irritable temperament, by the natural general delicacy of her constitution, and the unmistakable presence of disease in her right lung, was, with her child, discharged well, and is at present in the enjoyment of as good health as she has had for many years.

"When we review this case, none can conscientiously refer the slight sphacelus of the lacerated surface to any injurious pressure caused by the forceps, which indeed never were in contact at all with the part so affected. This result was inevitable from the morbidly heated and inflamed condition of the vagina; and the only point which excited wonder was, that the slough was not more extensive.

"It is also but fair to state that in some cases of forceps delivery, occurring under my own immediate observation during the past two years, in addition to the large number thus delivered in the hospital by the present Master, Dr. Montgomery and myself, there was not one single instance of sloughing, save the one now recorded; neither have I witnessed the loss of a child after this form of delivery save on two occasions, when death had evidently taken place several hours previously, as established by the decomposed state of the funis and incipient desquamation of the cuticle, and when, during the labour, the fœtal heart had not been heard. I may also add, that at this moment I am acquainted with two exceedingly severe cases of sloughing; in one of which I have

been assured by the attendant physician that, though the first stage had been very long, yet that the second did not exceed two hours and a half; and in the other, the second stage did not certainly exceed four hours. Both of these cases terminated without any assistance; but had the forceps been employed, I doubt not, in consequence of the shortness of the second stage in each, many would been inclined to blame that instrument for the result.

"The School of Midwifery in Dublin has long been exposed to the disgraceful charge, that her alumni devote 'cold steel to the offspring, and mercury to the parent;' and while, on my own behalf, as well as many of my brother practitioners, I would indignantly deny the imputation thus implied, I must certainly say that by some few the application of the forceps has hitherto been regarded, if not with fear, at least with antipathy and prejudice. I therefore think it a duty we owe to ourselves openly to record our sentiments of the efficacy of this instrument; and to prove, by our practice, that we not merely value it highly, but also, when occasion demands, employ it unhesitatingly and with confidence.

"No doubt, this antipathy was provoked and this prejudice fostered, by individuals (who, having attained high distinction in the practice of obstetrics, and whose opinions, whether right or wrong, were consequently received with respect and credence) who so magnified the difficulties and dangers attending the use of the forceps, as effectually to terrify the less experienced practitioner, and cause him to regard its successful application as almost a miracle. Yet we are now aware that all the frightful consequences, so constantly resulting from unduly prolonged second stages, were most unjustly referred to the application of the forceps. It is to be hoped that, in the present state of our knowledge, no one will be bold enough to charge the forceps with these unfortunate accidents. At the present day we are too experienced when and how to apply this instrument, and too well assured that these accidents are *not* the products of its judicious application, and its temporary (I might almost say momentary) presence in the vagina; but rather, that they are the result of the diseased condition of the parts, induced by the culpable prolongation of the second stage."

Dr. Jennings then enumerated some of the objections which have been held up *in terrorem* against the use of the forceps; these objections, he considered, so far from having been as warning beacons against rashness, have prevented many a timid practitioner from saving fœtal life, and have even been the cause of the very injuries imputed to its use.

He alluded to the following injuries said to arise from its use:—

1. Laceration of the neck of the bladder.
2. Injurious pressure, inducing sloughing.
3. Laceration of the recto-vaginal septum.
4. Injury to an imperfectly dilated os.
5. Injurious compression of the fœtal head.

Dr. Jennings then proceeded:—"These we shall briefly review *seriatim*, and consider how far such injuries are referable to the forceps. First, as generally applied, their grasp is obliquely lateral, and very rarely antero-posteriorly; therefore, as a general rule, the instrument is far removed from the pubic angle and neck of the bladder. In weighing the second objection, we must consider the following points: which diameter of the fœtal head offers the resistance, and thus exercises injurious pressure? and what is the diameter occupied by the instrument? A moment's reflection will convince us, that in no case in which the fœtal head has entered *within* the brim, is it the bi-parietal diameter which offers the impediment to advance; and that the addition of the forceps can never so increase that line so as to render it an obstacle to delivery, where the cavity is not occupied by morbid growth, or obliquely distorted; under which circumstances, no one in his senses would use the forceps. Nor yet, again, can the forceps exercise injurious pressure, unless used with violence, or retained in the vagina for too great a space of time, or unless the prolonged wavy motion (as some recommend) has been employed. Its presence in the vagina should be only temporary, not exceeding a few minutes, nor, when introduced, should undue force be exerted, and extraction should be made in the pelvic axis, *without using any lateral motion.*

"With regard to the third objection, if withdrawn in sufficient time, the forceps will not lacerate the perineum. When the head has been extracted so far, as that the chin may rest in front of the anus, the blades should be unlocked, and gently removed, and any sudden expulsion of the head should be guarded against by the application of the hand. By acting in this way, I have more than once preserved the septum completely intact, where, from the immense distention, I apprehended extensive laceration. Lastly, to say that the forceps, when properly used, injures an imperfectly dilated os, or injuriously compresses the fœtal head, is mere waste of words, because it should never be applied under such a condition as the former, and the latter assertion is not supported by fact. To assert, that it should never be used unless an ear be accessible, or the head on the perineum, is merely to say, in other words, that *the forceps is either always unnecessary, or, if necessary, is injurious, and should therefore never be used at all.* Though Denman and other old authorities teach the impropriety of using this instrument except when the ear can be touched, yet modern experience fully establishes that in vertex presentations the blades can be almost unerringly applied in the transverse diameter of the fœtal head, even where the ear is not within reach, by guiding them over the parietal protuberances. Acting in this manner, and preserving the obliquity above recommended, the ears are included more or less completely within the fenestra. Difficulty is sometimes produced by the presence of a very large scalp tumour, and their exact adjustment to the fœtal ears may thus be prevented. None of us, I am confident, subscribe to the doctrine that the forceps should only be used for the safety of

the mother; for, while we duly hold this object in view, we must not forget that the life of another being is also intrusted to our care. Common charity will cause us to pass by in pitying silence the somewhat candid confession of one, who said, that 'in an extensive practice, he only tried the forceps once, and then failed;' for, while we readily recognise the possibility of occasional failure, yet the want of success in that one attempt should not have prevented a subsequent trial.

"This much, then, I claim to be conceded, that where we have had from the commencement, the management of a case, where the amount of disproportion is not evidently excessive, and we are not assured of the death of the fœtus,—that if, in such a case, we were to resort to craniotomy, without a prior trial of the forceps, we should commit an act, which, on reflection, would cause every honest-minded man much regret. Again, when uterine action, of average strength, has continued for a fair period, without sensibly advancing the head, that further delay is highly censurable, as being a certain way of inducing an inflammatory state of parts. These principles of conduct have been imprinted on my mind by cases which I can never forget; in one, the second stage had been prolonged for several hours, the head had fairly entered within the brim, and was reported to have been stationary for several hours; the stethoscope disclosed the activity of the fœtal heart, uterine action not having been very strong. In the hope of terminating the case without instrumental interference, I administered a dose of ergot. Returning after the lapse of an hour, during which the woman was stated to have had very strong pains, I was greatly shocked to find the heart inaudible, even after a most careful examination. Instantly I applied the forceps, and extracted, much to my pleasure, an unusually large child, which, with a little care, was resuscitated. This case also establishes another important point, namely, that inability to hear the fœtal heart, nay, further, *even the combination of positive and negative evidence does not constitute an unanswerable objection* (as I have heard stated) *to the application of this instrument.* In another case (in which I never had been able to detect the fœtal heart), the head had barely entered within the brim. The case demanding instant delivery, I despaired of effecting this object in any way than by perforation, and from a reluctance to employ the perforator without consultation, especially as the fœtal heart never having been heard, I was to presume it as active, I summoned Dr. Sinclair to my aid. On his arrival, he startled me by saying, that delivery might, in his opinion, be accomplished by the forceps, which mode of delivery he accordingly effected with the greatest ease and rapidity. This lesson I never have forgotten, and, bearing it in memory, I have repeatedly effected the birth of living children, which (had it not been for the occurrence of this case), would have been delivered by other and more objectionable means."

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.

(*Continued from* p. 241.)

SESSION 1855-56.

DECEMBER 12TH, 1855.

DR. HARVEY, PRESIDENT, in the Chair.

A Case of Labour, with singular Placenta. By DR. W. H. SANDHAM, M. R. C. S.—" Mrs. G., aged 22, a small, delicate-looking woman, was suffering from Friday morning to Sunday evening, January 13, when I was sent for, from what two midwives pronounced severe and painful labour. It was her second child: with the first she had a good confinement. On examination per vaginam, I could with difficulty reach the os uteri, which I found like a hard ring, not admitting the point of the finger. I could not satisfy myself what the presentation was. I resolved to suspend the labour altogether, and, if possible, procure her some rest, and gave her a full dose of laudanum, which caused immediate subsidence of the torturing pains, and she rested until 5 o'clock the next morning, when labour commenced as distressing as ever. I was called at 6 o'clock, but did not reach the bedside till 8 o'clock. A little before I arrived, a thick, sanguineous discharge, of a tarry consistence, followed the bursting of the membranes. On examination, I discovered one foot presenting, and the left leg across the vagina, and fixed in its situation. I righted the position of the latter, and the woman appeared much relieved; the toes looked forwards, and, by a little manipulation in the delivery, I brought the face to look towards the left ilium, and delivered her of a child, evidently dead some time. It was livid all over, and the cuticle easily gave way; the scalp was very much distended with fluid, which made the head appear twice the natural size. Round about the ears the scalp presented an uneven, knotty appearance, like an old scrofulous sore healed up. The right shoulder and arm, down to the fingers, were unnatural in their appearance; the shoulder had not its circular motion, and, when quiet, stood out at right angles to the body. The flexor tendons, along the arm and fingers, were so contracted as to distort the whole limb; the left was also malformed; one leg was shorter than the other, and the mouth was curiously shaped. It was a male child, but the penis was remarkable: it was simply a little bud, or process, about the size and shape of a grain of wheat, attached to the upper and forepart of the scrotum, by a thread-like neck. I am satisfied it was not pervious, and it appeared to me to have no connexion with the bladder (if there was such an organ at

all). I examined carefully along the line of the raphe, but could discover no orifice. I could not get possession of the fœtus. It was about an eight months' child. I questioned the mother closely; she denied she was ever diseased, nor did she know of her husband ever having been so; but, about five weeks before, she received a kick from her husband in the abdomen, and she did not feel life in the fœtus from that time. After a little, I endeavoured to bring away the placenta, but the cord gave way on the slightest traction; and, on passing the finger into the vagina, I found it already occupied by the secundines, on handling which I felt the placenta curdy, and easily broken up. I now exhibit it to the Society. It was, when first expelled, at least twice and a half the size of the natural placenta, without any of its consistency, and only a small portion had the natural placentar arrangement, and presented an appearance not easily described, which seems to be a fatty deposit, very curiously arranged, looking like a large quantity of soft frills bundled together. It was, when removed, of a pale straw colour, dotted beautifully along the edges of the frills with bloody spots of a vermillion colour, and so soft to the touch that it seemed semi-fluid. By a little manipulation, the frill-like arrangement can be separated from one side to the other. It floated in water. There was a portion of it livid, and apparently bruised, which may have been the part injured by the kick which she stated the husband gave her. No hemorrhage followed its separation from the uterus, or after its discharge. The woman has recovered perfectly.

"I may ask, in conclusion, could a kick, five weeks before, produce so great a change in a healthy placenta, and, by substituting the present state of things, so interfere with the fœtal circulation and nutrition as to cause the death of the child?"

January 9th, 1856.

Professor Fleming in the Chair.

Foreign Bodies in the Stomach. — Dr. Richard Corbett said:— "Although the subject which I am about to introduce to the notice of the Association may not be considered of importance, still, from the great anxiety which is usually evinced in such cases, especially by parents where children are the sufferers, it may be of sufficient interest to occupy, for a short time, the attention of the Members. I allude to the swallowing of foreign and indigestible substances, and their effects on the stomach, intestines, and system generally. One of the most extraordinary cases on record is, I believe, that related by Dr. Marcet, in the twelfth volume of the Medico-Chirurgical Transactions, the reference to which I shall only give, while I proceed to notice some few cases, one of which was my humble self, as concisely as possible. In the year 1817, when typhus fever raged, and proved most fatal, I was in the initiative of my profession as apprentice to a surgeon, who was attacked and carried off by the

epidemic; I had been in close attendance on him night and day; and after his decease, being over 120 miles from home, I was invited to a friend's house, where there were a number of children. One evening, among their amusements, they were playing with a pistol bullet, rolling it on the carpet and running after it; and by-and-by they commenced throwing it at each other, when I thought it high time to interfere, and, if possible, conceal the bullet. After several attempts to hide it about my person, all of which they perceived, I attempted to slip it quietly into my mouth, which one of the youngsters having seen, he made a grasp at my face, and throwing back my head, the bullet slipped down my throat into the stomach. I thought no more about it, taking it for granted that it would one day pass through the canal; but at the end of a week or ten days, I felt general malaise, chilliness, headach, flushed face, tightness of the chest, &c., and fearing I might be laid up in my friend's house, I determined at once on making my way home, which, in those slow-coaching days, I accomplished with much suffering at the end of the second day. On my arrival, I was rejoiced to get to bed, and a medical man of some eminence at Sligo, at that time, was sent for. He pronounced me suffering from pneumonia, owing to distressed breathing and short cough; my headach was also severe. I never once thought about the bullet, nor did I mention the fact of my having swallowed it. I was forthwith bled from the arm, had my head shaved, leeches applied, and medicine given me. At the end of eight days, with the exception of the pain of the head, my symptoms were still urgent, and all this time, although I was aware of taking tartar emetic in mixture, I had neither nausea nor vomiting. The cough continued troublesome, and the respiration hurried, but expectoration, rather profuse, set in (characteristic of bronchitic affection), the amount in the twelve hours nearly filling a basin. I had scarcely any sleep throughout the whole time. On the sixteenth day from that of swallowing the bullet, about 5 o'clock in the afternoon, my mother came into my room to give me a drink, which, having taken, I said I felt inclined to sleep, and requested her, after all her fatigue, to join the family at dinner, and keep all quiet. In twenty minutes after she left the room, I was seized with a convulsive fit of coughing, causing me to retch violently, when, to my astonishment, the bullet was vomited into the basin. I placed it under my bolster, the cough and retching ceased, and I fell into a sound sleep for over six hours. I awoke greatly relieved from all my urgent symptoms, and rapidly convalesced. You may well suppose the surprise of my medical friend, when, at his visit next morning, the whole story was related by me to him. He could scarcely credit it, until he saw the bullet, the surface of which was corroded, as if it had been slightly chewed.

"As you may suppose, this accident made an impression on my mind, but it was not until the year 1837, twenty years after, that a somewhat similar case fell under my notice. A little girl, aged seven years, was brought to me by her grandmother, who stated that the

child had, about two hours previously, 'swallowed a penny-piece, and that it was stuck in her throat.' I carefully examined the fauces, but could neither see nor feel the foreign body. The child, on being given some bread and milk, swallowed it, but with some difficulty; I therefore introduced a probang, and pushed the coin into the stomach. I desired the woman to bring the child in a few days to the dispensary, or sooner, if she saw any occasion; she did so, and I found there was no symptom calling for interference. I directed some aperient medicine to be given occasionally, if the bowels were inactive, and for four months I lost sight of the case, until one day, meeting the old woman, I inquired after the child; she told me she was quite well, but that the penny-piece had never passed down. I requested her to bring the child next day; she did so, and, although the little girl was looking sallow, and evidently out of health, she did not complain, and it was stated that she had continued to eat her meals (potatos) as usual. On examination of the abdomen, she complained of tenderness on pressure over the left iliac region, and I ordered a powder, consisting of compound jalap powder and calomel, to be given at bedtime, desiring the stools, from its effect, to be closely watched. The following day the grandmother came to me in great delight with the penny-piece, the aspect of which was as if it had been in a furnace, the head on the obverse, and the harp on the reverse face of the coin, being nearly defaced. The child had swallowed it in the month of June, and did not pass it until the October following!

"In contrast to these two cases, the next which presented itself, in a very short time after the penny-piece case, was that of a young lady, who, while dressing for dinner, put some pins into her mouth, one of which she swallowed, and it stuck across in the œsophagus. From the distance of her residence from mine, more than an hour had elapsed before my arrival, when I found her in great agitation from the pricking sensation of which she complained, as if the pin would come out through her neck. I could not see it, nor could I feel it with the finger, so I determined, if possible, to push it down into the stomach; I succeeded with the probang, and all her anxiety and nervousness ceased on my assuring her she would not further suffer. Her sister, through fright, had before my reaching the house, administered a tablespoonful of castor-oil, which, within eight hours, had acted on the bowels, and the following morning, at my visit, what was my surprise to see the pin, head downward, on the top of a semi-solid alvine evacuation. The young lady had no further uneasiness from the accident, and she is now in Canada, the mother of a family.

"The next case which fell under my observation was that of a Mr. H., residing in the country, in whose lawn were two very fine cherry-trees, which bore fruit abundantly. He had some friends to dine with him, and he himself got up into one of these trees to pluck cherries, and while gathering them he ate freely of the fruit, and swallowed the cherry-stones. This was on Sunday; on the fol-

lowing Friday I was called in consultation to see him, when it was stated to me by his medical attendant, that from the previous Tuesday he had been suffering excruciating pain, at intervals, about the epigastrium, and occasionally extending to the umbilicus, with, while the pain continued, slight tenderness on pressure over the whole abdominal region. Sometimes the severity of the pain the patient himself referred to the right iliac region, but in this his statement was variable. There was not at any time febrile excitement, neither nausea nor vomiting; pulse ranging between 76 and 84. Owing to the violence of pain, the morning of the day on which I first saw him, his physician had bled him freely, and with relief, but on my arrival pain was again most acute, the patient writhing from it. As he had been relieved by the bloodletting in the morning, I at once consented to its repetition, when twenty ounces more of blood were taken from the arm with relief, but without producing faintness; calomel and opium were given at intervals throughout the night, having been preceded by a large injection of warm water and oil (several of which had from the previous Tuesday been administered), which latter passed off without any effect on the bowels. On the following day, and up to the twelfth day from the patient's first complaining, blood was each day taken, and each time in such quantity as produced relief from pain, which it did invariably; but still, from the medicines administered, and which were varied from day to day, there was no alvine dejection, and, strange to say, he never rejected from the stomach any medicine given him. There was throughout no tumidity or tension of the belly. On the twelfth morning of his illness, at our visit, we found him in agonizing pain, the attacks of which, throughout the night, were less severe. From the patient having been almost blanched from loss of blood, we hesitated, although he was a very stout and always healthy man, in using the lancet again, and, having directed the fomentations, which had been almost continually used, to be persevered in, we requested that some further advice should be summoned. A very old, but respectable practitioner, of nearly fifty years' standing, was selected. On hearing our statement of the case, he told us that the relief experienced by bleeding was all imaginary on the patient's part and on ours. As to the idea of cherry-stones in the intestine being the cause of suffering, it was absurd, and that if we again bled the man, he would not answer for his life. We, although both very junior indeed, did not hesitate in dissenting from his opinion, from our knowledge of the case, again insisting on opening a vein; and, from our old friend's obstinacy in resisting us, we were obliged to state our reasons to the members of the family, who at once yielded to us. The vein was opened, and the blood flowed in full stream, greatly to the horror of our old friend, who, standing at the opposite side of the bed, kept his finger on the pulse, every moment exclaiming 'That's enough;' but we still persevered until faintness ensued. While in the act of applying the bandage on the arm, the bowels gave way in the bed with a tremendous gush; and when, after

administering restoratives to the patient, he awoke to consciousness, and complained of something rough under him, we requested him to remain quiet for a while. By-and-by when we turned him over, there was a sea of feculent matter, and from the midst of it I poked out *thirty-two cherry stones*, which completely upset the diagnosis of our aged consultant. Our patient rapidly convalesced, and he died, only a few months since, of fever, having survived cherry-stones and bleeding over twenty years!

"Throughout the whole of this case there was no symptom to warrant us in saying that the pain arose from inflammation. I believe it to have been altogether spasmodic, and dependent upon these foreign bodies passing down in a conglomerate mass; and that the bleeding each time relieved this intestinal spasm. I was the more confirmed in this diagnosis by the fact of the patient having recovered without subsequent irritation of any portion of the intestinal tube.

"There is only one other case, to which I shall shortly allude,—one, in the commencement of the symptoms of which, there was no reason whatever to suppose that they had arisen from a foreign body. It was that of a late respected, intelligent, and clever practitioner, who in March last began to complain of dyspepsia, flatulency, torpor of bowels, hemorrhoids, with abdominal pain. In some two or three months after his having suffered from these symptoms, he himself said that he was convinced they all proceeded from some foreign body in the intestines, and that, having missed a false tooth, with its gold fastening attached, he was the more persuaded that he had unconsciously swallowed it. His pain at times was excessive, leading him to scream out. On his own responsibility he took to the use of opium to allay it, and depended almost altogether on injections to relieve the bowels. The quantity of opium taken by him was very large, sometimes producing wandering and loss of memory. There was no weaning him from it, even although his suffering did not demand the use of it so continuously. In the month of August last, when greatly worn down (almost a skeleton) from his sufferings and the effects of the narcotic, he, one day, after a lavement, while on the night-chair, heard something drop into the pan, which, on examination turned out to be a crooked pin, with the entire bright surface worn off, and the brass blackish, which, there could be no doubt, passed from the intestine: a day or two before, he complained of a pricking sensation in the rectum. The pain became partially relieved, but there was, from constant sanguineo-muco-purulent discharges, sufficient evidence of extensive ulceration of the intestines, to which, owing to his previously worn-down condition, he succumbed in September last.

"Throughout this case there was no tumidity or tension of the abdomen, but the contrary, a retraction. The case was too distant from me to see it as often as I could have wished; therefore it is that my detail of it is imperfect,—still, it is one of instruction.

"In conclusion I have only to add, that, singularly enough, I was

sent, on last evening, by the grandmother of a child whose family I attend, this brass circular nut, which probably confined the handle of some drawer, and which the child, aged $2\frac{1}{2}$, had swallowed the day before. He did not seem to suffer, but a dose of castor-oil was given, and within twenty-four hours the foreign body I now lay before the Society was passed through the intestinal canal. It is more than half an inch in diameter; and the fact of this body passing through the pyloric orifice so quickly, in so young a child, is worthy of notice."

Dr. S. Henry Hobart related the following case of *Sudden Death from the wound of a Pin.*

"Michael Foley, aged thirty-four years, was admitted as a dangerous lunatic into the Eglinton Asylum, Cork, on the 4th of May, 1849. He was of rather a quarrelsome disposition; but, when not provoked, very obliging and useful. His general health has been good since admission. On the 16th of December, 1855, he appeared during the day to be in his usual health and spirits, as he made no complaint, ate his dinner and supper with an appetite, and went to bed with the other patients. About $10\frac{1}{2}$ P. M. he aroused his attendants, who, on entering his cell, found him cold and shivering. Dr. Power, Resident Physician, was then called to see him; he was immediately in attendance, and found him quite collapsed, pulse scarcely to be felt, face blanched; he administered a tumbler of hot punch, which was swallowed with difficulty, and under the influence of which the man quickly began to rally, when, in making an attempt to turn himself round in the bed, he dropped back suddenly, and was found to be quite dead.

"On examination, thirty-six hours after death, there was found a most unusual degree of rigor mortis present: every limb being extremely rigid; abdomen moderately swollen, but tense and hard as a timber cask, the hollow sound of which it resembled on percussion; this rigid state of the muscles continued unabated to the end of the fourth day after death, at which time the body was buried.

"*Sectio Cadaveris.*—The peritoneum contained about a pint of colourless serum; the intestines were inflated with an immense quantity of air, so that the parietes of the abdomen could not possibly be brought to enclose them again, until they were punctured. The right lung was found firmly adherent to the thoracic walls by old pleuritic adhesions; both lungs were very much congested, and had a mottled appearance, and the minute tubes evidently contained a large quantity of mucus; a bloody fluid was escaping from the mouth and nostrils, resembling that contained in the lungs; it may, however, have come from the stomach, as that organ was not opened. The pericardium was full and tense, being distended with fluid, and on its being laid open a large quantity of blood poured out, that which first flowed being almost pure serum, while that which lay near the bottom of the sac was very deeply coloured, the

red corpuscles evidently preponderating; but not the smallest coagulum existed.

"The entire contents of the thorax were then removed for closer examination; the pericardium was laid freely open, and the contained blood removed. The heart being now brought fully into view, a common pin, without a head, was seen sticking in the pulmonary artery near its root, where it crosses the aorta; shortly below this point, the infundibulum of the right ventricle was perceived to be lacerated for nearly an inch in extent; a portion of this laceration was very superficial, but about a quarter of an inch of it penetrated completely through, and of course afforded a ready outlet by which the blood escaped into the pericardium; no wound or cicatrix could be detected in the œsophagus, or on the surface of the body; nor could any further scratch or puncture be discovered in the pericardium; neither was there any lymph adherent to its surface, nor even the slightest appearance of inflammation.

"This case affords several points of considerable interest, by no means easy to understand. Thus, the extraordinary degree and persistence of the rigor mortis, being as energetic four days after death as at any previous time, is very unusual. The heart itself also partook of this character, as it was peculiarly hard and contracted; presenting the appearance of concentric hypertrophy.

"The congested state of the lungs next attracted our attention, for this would lead us to expect that the blood, returning from them to the heart, was impeded in its progress, while the supply to them still continued; but, on the contrary, the rupture was in the right ventricle, the blood of which, instead of passing on to the lungs, escaped into the pericardium; thus, the first effect of the rupture ought to be, to deprive the lungs of their usual quantity of blood; and, even when the whole circulation was impeded, by the pericardium becoming full of blood, the return of venous blood to the right auricle should be as much impeded as that of the arterial to the left; and, consequently, the lungs ought not to be more congested than any other organ; whereas the abdominal viscera were unusually pale, and free from congestion in any part.

"And again, it seems difficult to understand when, and from what quarter, the pin entered the pericardium. The most careful examination, as I have already mentioned, failed to detect any puncture in the œsophagus, on the surface of the body, or in the parietal layer of the pericardium; while, at the point where the pin was found sticking in the pulmonary artery, though it penetrated only to the depth of a quarter of an inch, there was a distinct punctured wound left on withdrawing it. This would lead one to suppose, that it had entered that sac sufficiently long before death, for nature to heal the wound made by its entrance; but if this were the case, we ought surely to have had some premonitory symptoms; we can scarcely conceive a man living, even for a few hours, without any apparent inconvenience, with such a body as a pin in the peri-

cardium; we would expect that it should, at every beat of the heart, be disturbed from its position, constantly inflicting injury on that organ, or on its investing membrane; and those injuries would be readily perceived after death, if they were very recent; and if sufficient time had elapsed after the receipt of any of those injuries, inflammation would have been almost sure to have set in, and lymph to have been effused; whereas, we have found that not a trace of lymph, or any result of inflammation, could be detected.

March 12th, 1856.

Dr. Harvey, President, in the Chair.

Dr. O'Connor produced a specimen of *Bright's Disease of the Kidney*, taken from a female child eight years old, who had died in the Cork Workhouse, under the following circumstances. About six weeks before her fatal illness she had been affected with scarlatina, of rather a mild character, and was soon after sent to the school, with no apparent trace of disease existing. About a month subsequently, and only three days before death, general anasarca appeared, rapidly followed by very violent oppression, which almost threatened suffocation. The urine was scanty, dark, and turbid, and coagulated on the application of heat. On a stethoscopic examination, it was found that œdema existed in the left lung, and effusion in the pleura of the right side. After a short time the urine was entirely suppressed, and the oppression increased to such a degree as to bring life to a very speedy termination. There were no symptoms of cerebral disease to the last, and very little fluid was effused into the peritoneum. Dr. O'Connor observed that he had an opportunity of examining a case a short time previously, the symptoms of which were identical with those he had detailed, and which exhibited the same appearances on a post-mortem examination, namely, effusion into the pleura and pericardium, and Bright's disease in the kidney. In no epidemic within his recollection did anasarca so frequently follow on scarlatina, as in that which they had witnessed during the last winter. In every case which came under his notice there was albumen in the urine, and in many cases it was rendered turbid by particles of blood. This would go to prove the inflammatory character of the disease (doubted by some authors), and the cases which he had now brought under the notice of the Society would show that degeneration of the kidney may be the ultimate result. The case would be also deemed of interest as showing the early age at which this disease may occur.

Case of Effusion into the Right Pleura, with some obscure symptoms.—Dr. O'Connor produced the right lung of a man who had died in the hospital of the Cork Workhouse, of chronic pleuritis, associated with adherent pericardium. The point of interest in the case was, that large bands, about two inches thick, passed from the pulmonary

to the costal pleura, which, during life, caused the respiratory murmur in the compressed lung to be brought to the ear with great clearness, the bands acting as a species of stethoscope. This, added to the ordinary difficulties in the diagnosis of pleuritic effusion of the right side, was calculated to mislead an incautious physician.

Dr. O'Connor laid before the Society two cases of *Adherent Pericardium*, in addition to one he had recently presented, in both of which there was dilatation and hypertrophy of the left ventricle. His only object was to put the cases on record, as a groundwork for future observations.

Case of Staphyloraphy.—Dr. Cremen introduced a boy aged fifteen years, upon whom staphyloraphy had been performed in the month of June, 1854, at the Cork South Infirmary, by Dr. Tanner. The deformed appearance in this case is well represented in Fergusson's Practical Surgery, figure 298, page 608.

The operation consisted in paring off the margins of the cleft, and bringing them together by interrupted suture, three ligatures being used, so as to produce union by the first intention, which took place in the usual time; the portion retained by the superior ligature showed a tendency to ulcerate; this was owing as much, perhaps, to the action of the palatal muscles as to any degree of tightness in this particular thread, great care being taken in this respect; it was, however, speedily removed by the proper application. For some time after the operation, a thick and viscid muco-purulent secretion continued to discharge from the back of the pharynx; the daily application of a ten-grain solution of nitrate of silver checked this, and he is now quite free from it; for a day or so after operation he was restricted in diet to fluids and broths, then arrow-root and gruel were given him. He was thirty-nine days in hospital, much time being expended in bringing him into a healthy condition, and also to reconcile him. His case, however, was much retarded by his having, contrary to direction, eaten some very hard crust of bread in the early stage of the healing process. Previous to the operation his articulation was most indistinct and imperfect, it being most difficult to understand what he said, even when he spoke very slowly. His power of swallowing was deficient, and attended with difficulty; his accent was nasal. At present, nine months after the operation, his voice and articution are almost natural, the voice has still a nasal tone; both have gradually improved since the operation, and will most probably continue to do so with the increased growth of the parts. On this subject Mr. Fergusson says :—"In some instances there has scarcely been an appreciable difference, but in others, and I am glad to say the majority, the effect has been most gratifying; in some the change of tone has been perceptible at once; while in others, many months have elapsed ere much could be noticed; in all instances where there has ultimately been great improvement, correct modulation of tone has been acquired only after the lapse of some considerable time."

On looking into the mouth, the parts are firmly united; the cicatrix of junction is shown by a white line running down along the middle of the velum; the latter seems contracted and drawn upwards and backwards; the loss of substance would hardly account for this, and we must attribute it to the action of the muscles connected with the soft palate, particularly the levatores palati, and palato-pharyngei. Mr. Fergusson, in his paper on this subject, recommends the division of these, and there cannot be a doubt but that the benefit of the operation would be much enhanced by this division; in this case, however, they were not divided; but the lateral parts of the velum were broad, so as almost to approximate.

The operation was successful and beneficial to the subject of it, as it rendered him more eligible for employment than he otherwise would have been.

Memoranda of some Cases of Re-vaccination. By Dr. Harvey.—Dr. Harvey detailed the particulars of a number of re-vaccinations which he had practised since the recent outbreak of small-pox in Cork, in the hope of learning the views of his brethren as to the protective value of the operation.

Seventeen cases were related, the ages of the subjects averaging from 13 to 25 years, Of these, 16 took more or less perfectly: former cicatrices were good in 12 cases; small, in 3; indistinct, in 2. The arm inflamed on the second day in 4; on the third, in 5; on the fourth, in 5; and on the fifth, in 2. An elevated ring was developed in 6; none, in 6; an imperfect ring, in 2. Great tumefaction, hardness, and redness, in nearly all the cases; the areola reaching a diameter of over six inches, in 2; over 4 inches, in 3; over $3\frac{1}{2}$ inches, in 1; over 2 inches in 2. The vesicle was nearly normal in 2 instances: 1 failed altogether.

The following is an abridgment of the remarks appended to the cases of which the above is a summary:—

"The fact of but one failure having occurred may, perhaps, be attributed to my having uniformly re-vaccinated on the very day on which I had taken the lymph. I took this precaution to satisfy myself that failure, if such should occur, might be attributed to insusceptibility on the part of the recipient, rather than to any defect in the lymph. I may add, that I did not, nor would I on any account, think of taking matter from a re-vaccinated arm, on the principle that it is of the first importance to propagate none but *unexceptionable* matter.

"On a review of these cases, we do not notice anything very different from what is commonly observed in re-vaccinations, namely, a series of vesicles, presenting different degrees of irregularity; the irregularity, it may be presumed, depending on the degree of protection remaining from the former vaccination. In all, the course is shorter than that run by the regular cow-pox, notwithstanding the early symptoms being, in some cases, severe; thus showing some resem-

blance to the phenomena of small-pox, as modified by previous vaccination, where the febrile accession is frequently heavy, and the symptoms afterwards subside more quickly than might have been expected. In fact, the progress of the vaccine disease would appear to be modified by previous vaccination, very much as small-pox itself is; and if this be true, it adds another to the many evidences we already have of the identity in essence of the two diseases. On the assumption of this identity, we may, perhaps, read a probable meaning in the appearances presented by the cases just detailed, namely, that as the cow-pox in them was modified by the former vaccination, so in proportion would the small-pox have been, if the individuals had taken it; in other words, those who had a slightly modified vesicle on their arm, under re-vaccination, would have had a slightly modified small-pox, if seized by the complaint.

"Under present circumstances, where the neglect of vaccination, and consequent prevalence of casual small-pox, increases the danger of its spreading to those who may be but partially protected, it becomes a question of no small interest to determine how far a second vaccination renews that protection which had, for a time at least, been afforded by the first.

"If, as extensive experience has shown, the having once gone through any of the exanthemata, for the most part, protects the individual from a second attack, and that instances of such diseases being taken a third time are so rare as to be matters of professional curiosity: if, also, we can be fully satisfied that small-pox, and the disease we have derived from the cow, are essentially one and the same, then it would seem that we are warranted in placing considerable confidence in re-vaccination. A vaccinated person may thus be considered as having gone through small-pox, and the second operation subjects him to as much of the complaint as he is now susceptible of undergoing.

"But are we justified in assuming this identity? Authors, it must be admitted, are not unanimous on the point; and as we have, amongst others, the high authority of Dr. Gregory, Physician to the Small-pox and Vaccination Hospital, against the commonly received opinion, it may be no harm to recapitulate, very briefly, the evidence in favour of that view, which is, at any rate, more consistent with what we know of other diseases.

"It was early the opinion of the distinguished physician and philosopher to whom we are indebted for the blessings of a comparative immunity from this dreadful scourge, that the cow-pox was not a something that acted as an antidote to small-pox, but the disease itself, modified in its character by passing through the constitution of the cow, and thus brought to its mildest condition. The name he gave it (Variola vaccinæ) indicates his views on this head; and this name, he remarked himself, contained in it the germ of a theory which future observation would illustrate and verify.

"Subsequent investigations have shown, as we know, that

cattle, at various times, and in various countries, have had a variolous eruptive disease, in different degrees of severity, simultaneonsly with human epidemics; that the disease still shows itself occasionally in cows in various localities; that they infect their milkers, producing human cow-pox; that, in a few instances, milkers labouring under small-pox have infected them, and cow-pox was the result; that direct inoculation of the cow with human small-pox has produced a mild disease, which, when transferred back to man, has shown itself in him as cow-pox; and, not only this, but human small-pox and human vaccine (the latter inserted a few days later, after the manner of Bryce's test) have run their course together in the cow, and produced vesicles closely similar to each other in all their characters. Further, when the disease has been of a malignant character in cattle, it has more than once produced, by inoculation in the human subject, an eruptive disease of a truly variolous nature, affecting the whole body, and well nigh proving fatal in its consequences. Lastly, we have an instance on record, of small-pox having been communicated by contagion, in the ordinary way, to cattle, and cow-pox resulting in the animals so affected.

"It would occupy too much time to do more than allude to the highly interesting observations of Jenner, and of our own enlightened fellow-citizen, Dr. Milner Barry, bearing on the casual communication of the vaccine disease (*the shinach*, as it is called in the south of Ireland) by the cows to their milkers, in these countries; or of Dr. Winchester, on a similar infection of the milkers by the camel, in India: in all of which cases its protective powers have long been proverbial. Mr. Ceely's production, also, of vaccine vesicles, by inoculating the cow with small-pox, thus creating an inexhaustible supply of matter, as well as establishing a highly important practical point, confirmed as it has been by Gassner, Basil Thièle, and others, is well known and appreciated. But I would draw especial attention to a very interesting narrative of Mr. Ceely[a], in which the cow-pox appears actually to have been generated in a number of cows together, by means of small-pox fomites, the beds and bedclothes of persons who had died of the disease, to which they were casually exposed. The researches of this philosophic observer, whose services in the cause of vaccination are second only to those of Jenner himself, have thus shown that contagion, as well as inoculation, may spread the disease from man to domestic animals; and we can now understand the accounts which history furnishes, of men and animals being swept away simultaneously by the common pestilence, when occurring, as it occasionally has done, with unusual malignancy.

"If we wish for evidence of a different kind, of the identity of the two diseases, it is to be had in the fact of small-pox and vaccination leaving the system in very much the same condition as to

[a] Transactions of the Provincial Medical Association, vol. x.

future susceptibility. Thus, Dr. Heim's Reports of Re-vaccinations in the kingdom of Wirtemberg show that, in every 100 cases the operation was performed—

	With success.	Modified.	Without success.
After Small-pox, . . .	32	26	42
„ Vaccination, . . .	34	25	41

"Of the absolute protection afforded by re-vaccination in these countries, we have no records which would enable us to form an opinion; and the only statistics which I happen to have met with, bearing upon the point, are those of the Prussian army, where re-vaccination has been regularly practised for many years. By these it appears that—

In 1834 there were	619	cases of variolous disease, and	38	deaths.
„ 1835	„	259	„	„	5	„
„ 1836	„	130	„	„	9	„
„ 1837	„	94	„	„	3	„

Though at this time small-pox was rather on the increase through the country.

"It appears to me a matter of doubt, and that doubt is confirmed by the Tables just referred to, whether the vaccine matter is rendered less effectual by being passed through a great number of individuals. If this were the case, should we not find vaccination progressively less and less protective as time advances? But it does not appear so where vaccination is effectively carried out. On the Continent, the mortality from small-pox has been reduced from 66·5 to 7·26 in the 1000—a success *six times as great* as has resulted in these countries, owing to our culpable neglect and laxity in this most important duty. (See Dr. Seaton's Report to the Epidemiological Society, 1853.) If the essentials insisted on by Jenner as to the character of the lymph, the progress of the vesicle, and a sufficient extent of it, be attended to, there can be little to apprehend. He laid it down that two vesicles should be produced—one left to take its course untouched, and the other used for propagation; but if the vesicle has gone through all its stages, and produced all its constitutional effects, one would be disposed to say that it matters little whether the lymph trickles down the child's arm, or on to your points, to be useful to others. The second may be of service by increasing the extent of the cow-pox, if we are to trust some statistics of Mr. Marson, from which it would appear, that protection is in proportion to the number of cicatrices observed on the arms.

"I do not know whether others have observed that where the vesicle has been very fine and well developed, that just as it has arrived at its acme, say the ninth to the eleventh day, an eruption of papulæ, more or less numerous and advancing to minute circular

pustules, scattered chiefly on the extremities, has shown itself, and died away within a few days. I have noticed it frequently, and have always been better satisfied with my work on that account. It looked as though there were an attempt at a general eruption.

"I have already taxed the patience of the Society too heavily, but I would ask one question more. Is it safe to vaccinate an individual while exposed to the contagion of small-pox? I would say, yes, if it be done *early* in the period of the exposure. It is considered that the incubation of cow-pox is the shorter of the two, and hence, if it get the start in the system, it may, at least, modify the attack. In many cases it has appeared to aggravate matters, and, where it has not prevented small-pox, it has brought vaccination into disrepute."

Case of Poisoning by Sulphuric Acid. By John Popham, M. D., Physician to the Cork North Infirmary.

Alfred Winstanly, a private soldier of the 40th regiment, quartered in Cork garrison, was brought into the North Infirmary, at 7 o'clock, on the morning of June 18, 1851, presenting the symptoms of poisoning by some corrosive mineral acid. He was a man of powerful strength, and about thirty-six years of age. Part of his lips, and the interior of the mouth and pharynx, were stained of a grayish or slightly brownish colour; at the corners the lips retained their natural appearance. On his soldier's jacket brown stains existed. He appeared to suffer most excruciating pain, moaning loudly, breathing with difficulty, and keeping both hands clasped on the epigastric region, to which he referred all his distress. His entreaties for relief were most heart-rending, being urged with all the earnestness of intense suffering; still, he was greatly averse to swallow any medicine from the agony to which it gave rise.

On inquiry into the particulars of the case, it appeared that he had been at all times considered a very well-conducted man in the regiment, and had been ten years in the service, having obtained a medal and star for good conduct in India. Unfortunately for him, he formed an attachment for a young girl named Mary Low, who accepted his proposals, provided he got leave from his commanding officer. This request Winstanly was reluctant to ask, and it was told the parents of the girl that it was because the colonel knew him to be a married man. Under these circumstances, the parents of Mary Low resolved to send her by the steamer to London out of his way. After ineffectual attempts to get into her house, he escaped from barracks by leaping the wall on the morning of her departure, and having purchased half a pint of oil of vitriol at an oil-shop in the North Main-street, he went to her house, and declared that if she persisted in abandoning him he would destroy himself by

drinking the poison. As her friends hurried her on to the quay he followed her, making the most affecting appeals to her to stay, but at last, when he saw that all was in vain, he drank off the contents of the cup in her sight, and instantly sprang upwards from the ground, screaming frightfully. In this state he rushed after her to the boat for about a hundred yards, when he fell on his face shrieking with pain. He was then removed to the Infirmary, where I saw him a few minutes after his admission. His face was livid and sunken; the surface of the body, and especially of the forehead and hands, was covered with a cold, clammy moisture; his features were greatly distorted; the pulse scarcely to be felt; altogether he presented an appearance like a person in the algid stage of cholera.

I immediately administered some magnesia, largely diluted in milk; but it had scarcely reached the stomach when it was thrown back with force, the last portions being changed to a brown colour. I continued to give him, as long as he would take any remedies, magnesia and milk, with various bland fluids, such as linseed tea, white of egg, &c.; but, after being taken by him with a manifest effort, and only in compliance with my anxious solicitations, they were always rejected, being retained variable lengths of time, mostly but for a few seconds; the portions first thrown off were not changed in colour, but when drinks were retained a longer time in the stomach, they assumed a brown and frothy appearance; there were no eructations of gas. He obstinately resisted any mention of the stomach-pump, and, indeed, the irritability of the stomach rendered the use of it unnecessary, even if it were judicious. Other remedial measures were employed, with the effect of somewhat mitigating the pain. About four hours after his admission signs of blood appeared, and the discharges from the stomach became thick and ropy, and of a deep rusty colour. The pulse was 60, very feeble, and intermitting; the symptoms of intense pain had abated.

At 4 o'clock P. M., the assistant surgeon of his regiment, Dr. Haverty, saw him with me by appointment; no signs of stridulous breathing or laryngeal distress had occurred, such as generally happen when the fumes of the acid are inhaled; he spoke in a whispering, feeble voice, and preferred making known his wants by gestures, clasping his hands and then pointing to his stomach as the seat of all his pain: he had a little sleep; the matter thrown up lately was more brownish than before, and with a copious intermixture of blood; no shreds were seen in it; his stomach was less irritable; singultus constant. He was, amidst all his suffering, continually asking for the girl, whether she had come back, and saying he would die happy if he could see her.

9½ o'clock P.M. Some re-action has taken place. Pulse 76, very feeble. He complains of the heat, and throws off the clothes; is disposed to sleep; rhonchus sonorous in the chest, some beginning of it in the larynx; his bowels had been twice largely affected; discharges black and offensive; urine very high-coloured, and deeply reddening litmus; the vomiting had ceased, but when he tried to

drink he was obliged to close the nostrils with his fingers, or the fluid would be driven through them by the contraction of the pharyngeal muscles. He had no pain of head, or convulsions; his intellects were quite clear.

About an hour after this, the burning pain in the epigastrium, which had for a time remitted, became agonizing, so that his shouts could be heard over the hospital; his thirst also was intense; "water, water," was his continual cry. In this state he continued till nearly $2\frac{1}{2}$ o'clock A.M., when he expired, about twenty hours after taking the poison. His mind was clear to the last.

The post-mortem examination was made twelve hours after death. The whole surface of the body was of a deep purple colour; the cadaveric rigidity was intense; the biceps muscles appeared as if in strong contraction; and the flexor muscles of the fingers kept them forcibly pressed to the palms of the hands; blood continued to gush from the nostrils when the body was stirred; the heat of surface was still present in a considerable degree. On making an incision through the integuments, black tarry blood poured out of every vein; in fact, all the veins of the upper half of the body especially were gorged with black blood, perfectly fluid.

The lungs were highly congested with dark blood; the bronchial tubes were filled with frothy mucus, and their lining membrane was in an intense state of vascularity, which could be traced to the smallest tubes; the inside of the trachea was bright red; the epiglottis was erect, rigid, rough at the superior end, and spotted with green and brown marks; the mucous membrane of the larynx was but slightly inflamed; some yellow spots were scattered over it where drops of the acid had touched; not much œdema of the glottis; the thyro-arytenoid ligaments were in apposition, and the sinus obliterated. The heart was contracted, and no clots existed in it; the aorta presented in its interior a beautiful vermillion tint.

On slitting the œsophagus, the inner surface was greatly discoloured; the pharynx presented various shades of yellow, green, and brown, with ash-coloured sloughs; the mucous membrane was soft and pulpy, being easily removed with a knife; the colour deepened on approaching the stomach, and towards the cardiac end of that organ the mucous membrane was quite disorganized, appearing black and shreddy. Notwithstanding the utmost caution, the finger perforated the lower end of the œsophagus, and part of the contents escaped before it could be tied. The stomach was considerably contracted; some livid spots were visible on the serous investment; near the great curvature; almost the whole mucous membrane was charred and in ridges, which, on being examined, exhibited total destruction of both mucous and muscular coats; about an inch from the pylorus, the blackness ceased, and this orifice was closely contracted; no perforation was found, though the light was visible through several parts; the contents were like tar. The duodenum was greatly inflamed; the inner surface of its ventricular portion was destroyed; but the portion contiguous to the small intestine

was not so much engaged; the small intestines were full of gas, and of a fluid like soot and water; parts here and there were spotted with bloody puncta, but no continuous portion was inflamed till we arrived at the cæcum, in which the mucous membrane was pulpy and absent in many places; the larger intestines showed much more indications of the poison than the small, exhibiting frequent brownish stains. Flakes of lymph had been effused here and there on the peritoneal surface, but no adhesions existed.

The liver was marked by characters of old disease, its external surface being livid, rough, and granular; its serous coat showed signs of recent inflammation; the spleen was greatly enlarged. The urinary bladder was contracted, and nearly empty.

On opening the head, the scalp was dripping with black fluid blood, poured out in inconceivable quantity, the sinuses were also gorged. The brain was deeply injected, especially the medullary part, which was studded with black dots, like capillary apoplexy; these oozed out copiously on pressing the sides of the hemispheres; the substance of the brain appeared preternaturally firm, and the same firmness of texture was observed in the cerebellum and pons. The ventricles were full of a limpid fluid, which slightly changed the colour of litmus; the sub-arachnoid fluid was more abundant than usual, as was also the cephalo-rachidian; all the arteries of the brain were inflamed, their external surface appearing rough, very red, and granular.

There are some points of pathological interest in the above melancholy case of suicide which I shall briefly note: one is the small portion of the fluid which entered the larynx, arising from the deliberate manner in which he swallowed it, and the protective influence of the epiglottis; there were scarcely any marks of the local action of the acid in the windpipe beyond the lingual surface of the epiglottis, and no stridor at any time existed. It appeared that the whole contents of the cup were swallowed, and it was unfortunate that the stomach was empty at the time, so that the undiluted poison came at once into contact with the walls of that viscus. I may also notice the action of the poison in its effects upon the muscular system; the sudden convulsive spring upwards on taking it, such as occurs when a person is shot through the heart; the rush forward, until arrested by the violence of the pain; and the excessive rigidity of the muscles, especially the flexors, as connected with the fluidity and heat of the blood, which persisted long after death. With respect to the blood itself, the power of coagulation seemed totally destroyed in all parts of the body; the blood in the veins was deepened in colour several shades beyond the natural appearance; the arterial blood approached the venous in colour, and the action of the circulatory organ was labouring, slow, and intermittent, so as scarcely to be felt pulsating by either the hand or ear, showing the benumbing influence of the carbonized blood upon it. It is curious, with such a state of the blood, and so much congestion of the brain, to find the intellect unclouded, and consciousness persisting to the las t, except

that the intensity of the pain may have antagonized the stupor which naturally arises from retention of carbon in the system. Whether the firmness of the brain was natural, or the result of the poison, I am unable to say.

With respect to the direct effects of the poison, the greatest amount of injury was sustained by the lower part of the œsophagus, and the least by the pyloric end of the stomach. It is not a little singular how the latter escaped so well, when the part of the duodenum below it was so deeply engaged. It is also remarkable how much more the large intestines showed the effects of the poison than the jejunum or ilium.

Case of Fatal Injury. By S. Browne, R. N., M. R. C. S. E., Surgeon to the Belfast General Hospital and Ophthalmic Institution.

The following case is submitted for the purpose, principally, of showing how extensively the skull may be fractured without any external wound or depression of bone being present:—

George Forde, aged 45, a labourer, while employed at the building of the new Custom House here, was precipitated to the ground from a height of about forty feet: he was immediately picked up and carried to the Belfast General Hospital, where he was admitted, at noon, on the 23rd of January last. Upon examination it was found that he had sustained a compound comminuted fracture of the bones of the left leg, and a simple fracture of the right tibia. His face was very pale, and he lay in a complete state of stupor, and motionless, save that the right arm was frequently thrown violently across the breast; blood was flowing rapidly from the right ear, and also from the nostril of the same side. The pupil of the right eye was insensible to the stimulus of light, while that of the left contracted, though slowly, upon exposure to the same agent. This state of the pupils continued till within a few hours of death.

His breathing was slow, his inspirations deep, but without any stertor; the pulse 60, and weak. A careful examination of the head failed to detect any wound, or any depressed portion of bone. Twelve hours after admission he became very delirious, and could scarcely be kept in bed, as the movement of the right side was incessant, while the left seemed quite paralyzed; this continued for the next twenty hours, being accompanied, at stated intervals, by violent screams; after that time he ceased to make any noise, or any movement, save with the right arm, which he continued to jerk about, especially above his head. For the first three days after the injury his bowels were not moved, though the urine was constantly escaping; on the fourth day, however, all the sphincters gave way. From this till the time of his death (the evening of the 29th of January), he continued to sink. The breathing became very hurried, but never stertorous; and the pulse very rapid, and finally imperceptible for some hours before dissolution, which took

place without any struggle whatever. I should remark, that throughout he continued to swallow milk or beef-tea, when applied to the lips.

I had the head examined fourteen hours after death. When the scalp was turned back we observed an ecchymosed spot, about two inches square, situated upon, behind, and above the right mamillary process. On removing the calvaria, an immense extravasation was found between the bone and dura mater, the membrane having separated to a very large extent over the right hemisphere. The quantity of blood was fully six ounces. The middle and posterior right meningeal arteries were torn. In the posterior portion of the right parietal there was an extensive stellated fracture, which branched into the occipital and right temporal bones, and, on tracing the latter, we found a part of the petrous portion detached by transverse and oblique fractures. This piece of bone measured $1\frac{1}{2}$ inches in length by $\frac{5}{8}$ths of an inch in breadth. The transverse fracture passed through the petrous portion $\frac{3}{8}$ths of an inch outside of the internal auditory foramen, while the oblique fracture passed inwards for $1\frac{3}{8}$th inches into the right carotid canal; so that, when the detached portion of bone was removed, the carotid canal was laid open, and the artery exposed for an inch. The vessel was quite uninjured. The vessels of the brain were congested, but there was not any remarkable effusion into the ventricles of either side.

There are several points of interest about the preceding case which will readily be suggested to the mind of the physiologist, and to which I need not further refer. The nature and extent of the fracture of the skull must, however, strike every one as being very remarkable; indeed, I could not have conceived it possible that the petrous portion of the temporal bone could have been so extensively fractured, and that without any wound of the integuments, or any depression of the part of the skull which sustained the direct blow. Probably the mamillary process received the principal shock, which may account for the non-existence of any depressed bone.

A Case of Progressive Muscular Atrophy. By RUDOLPH VIRCHOW.

ON the 27th of May, 1854, the body of George Amling, a pensioner, aged 44, was brought for dissection from Julius Hospital. The patient had sunk under the symptoms of phthisis, with frequent attacks of pulmonary hemorrhage, albuminuria, and œdema of the feet, having suffered from the time of his admission to the almshouse, on the 24th of August, 1847, from an almost total paralysis of the extremities, which had been considered to be arthritic. It was not until the autopsy that the true nature of the affection was discovered, and it appeared from additional inquiries made at my suggestion by Dr. Ernst Schmidt, that the patient's condition was

hereditary, for his father had died in the same state, except that in his case the disease had been developed somewhat later than in his son's—namely, not until he had attained his fortieth year. The son, too, was said to have been very healthy in his youth, and the first distinct paralytic symptoms were observed in his twenty-first year. These commenced in the lower extremities, and gradually extended to the upper, so that at last he could bring the latter into his power only by jerks, and by a kind of swinging motion. The bladder and rectum, on the contrary, continued unaffected to the last. Once, about six years after the first appearance of the disease, his state is reported to have remarkably improved; subsequently, however, a progressive aggravation again set in, and all the very numerous remedies employed in the hospital—tonics, nervines, stimulants, electricity, &c.—were unattended with any beneficial effect.

The examination of the body revealed the following:—Very great emaciation and anemic appearance of the whole body; considerable flattening of the thorax; œdema of the lower extremities and of the scrotum; the legs flexed at the knee and hip-joints, but capable of being extended by moderate pressure.

The muscles of the extremities in general were very much wasted, and had a pale, reddish yellow appearance. They exhibited, however, great diversity in their condition. Some muscles were wholly degenerated; to the naked eye they seemed flabby, of a pale yellowish colour, somewhat œdematous, but of distinctly fibrous appearance—as, for example, did the sartorius and the adductor of the great toe; on microscopic examination we found in these muscles areolar tissue, containing fat cells and fine granular lines, in parts continuous and corresponding to the old muscular bundles, in other situations interrupted. Other muscles—for example, the *extensor communis digitorum pedis*—were pale and very slender, but presented a more reddish colour derived from fine vessels running longitudinally; in these the microscope exhibited, in addition to the matters mentioned above, slender tubes of from 0·009 to 0·01 of a millimetre in breadth, which, within a delicate membrane, contained very small fat-corpuscles. Further were observed, here and there, oblong nuclei, such as are peculiar to muscles; in other places, on the contrary, little round nuclei, which after treatment with acetic acid presented quite the appearance of those of pus. The latter lay in some places distinct, in others in heaps of from two to seven and upwards, in others they were arranged in rows. Sometimes, moreover, those tubes appeared to be completely closed, with a roundish end; frequently they ran off in a more winding direction. In other situations, lastly, the muscles were still more highly reddish coloured. Here the tubes were broader, from 0·04 to 0·05 of a millimetre in their transverse diameter; the contained granules were more numerous; the structures were still looser, frequently arranged completely in the form of a garland, or separated into

rows of mostly oval corpuscles up to 0·075 of a millimetre in length. But precisely here it was evident that the rationale of these structures is a tolerably difficult problem. For the occurrence of distinct fat cells, enclosed in a membrane removed from the drop of fat, and furnished with a fixed oval nucleus, was not uncommon. These were undoubtedly derived from corpuscles of areolar tissue; for I found bundles of this tissue with spindle-shaped, very slender corpuscles, which were frequently coherent at their extremities. Immediately beneath lay spindle-shaped cells, very similar, but somewhat broader, and filled with the finest fat corpuscles, which became gradually larger and more rounded, and finally passed into large oval cells, which, in addition to the finer, contained somewhat larger drops of fat. Lastly came well-marked fat cells, differing from the ordinary only in containing along with one large drop several smaller ones, and in not having a perfectly round form, but most generally in the place of the large drop a roundish body, passing into a thinner neck, sometimes truncated, and sometimes anastomosing with another similar formation.

It, therefore, appeared to me to be certain that in this case a new formation of fat cells out of corpuscles of areolar tissue took place; but, on the other hand, the similarity of many of these forms with the metamorphoses of the muscular bundles was so great that I could not decidedly fix the limits between them. Where the muscles were still more intact, the primary bundles appeared slender, pale, having their contents studded with fine granules and their transverse striation more indistinct. From this condition we saw a certain series of objects down to the first described long tubes, and from these again to the garland-like arrangements. However, there can be no doubt of this, that we had before us the most extensive wasting of the muscular bundles, and the new formation of fat cells.

As to the other elements of the diseased muscles, their vessels, and especially the walls of the smaller arteries, were also filled with finely granular fat. The nerves appeared to contain fewer fibres than normally, for very wide intervals were found between them, both on longitudinal and transverse sections, which were occupied by a tissue extremely rich in nuclei; the nuclei themselves were long, slender, and somewhat pointed, almost like those of the fibres of organic muscles. Finely granular fat, too, was everywhere found. But all the nerves which were examined, especially those of the leg and sole of the foot, still contained distinct fibres, which even possessed a great breadth, but after treatment with acetic acid, potash, or soda, appeared smoother and more homogeneous, presented less of a dark contour, and only here and there exhibited any considerable accumulations of medullary matter. To the naked eye, however, the nerves did not appear by any means atrophied; some—for example, the nervus tibialis posticus—was even tolerably thick, and somewhat bluish; its individual fibres, on the contrary, were more easily separable.

The thyroid gland presented old and recent knots of bronchocele. The cartilages of the larynx and ribs were ossified. The cervical glands on the right side were much swollen and infiltrated with a grayish-white, cheesy substance. The lungs had extensive old adhesions; the lower lobe of the left was almost completely void of air, and solid; on section it exhibited slaty induration and numerous more recent nodules, formed partly of bluish red and granular and partly of white and cheesy depositions; on the right side there was extensive slaty condensation of the upper and middle lobes, around which were found several ulcerous cavities and more recent infiltrations; in addition there was much œdema. The bronchi were dilated, their walls were thickened. In the pericardium there was but little fluid; the heart itself was moderately firm, rather pale, and spotted; the blood was well coagulated, and rich in crassamentum; the aortic valves were somewhat attenuated and elongated, and at the edges were slightly cancellated and gelatinous.

The liver was tolerably large, flabby, smooth, anemic; its acini were small and deeply tinged. The spleen was nearly double its normal size; its capsule was thickened, its artery was very tortuous and thickened in its walls; the pulp was of pappy softness; the follicles were numerous, but obstructed; only at one end was there a firmer, tolerably extensive wedge, where the tissue, condensed and dark-spotted, with the capsule relatively thin and ecchymosed, was covered with a tolerably dry layer of fibrine, half a line in thickness. The left kidney presented a thin and easily separable capsule, a rather granular surface, and some slaty spots; on section, considerable atrophy of the medullary and cortical substances was observed; the latter had almost completely disappeared at the circumference of the several lobules; in their interior it had more of whitish opacity. The pyramids were pale, and traversed only by isolated, comparatively wide vessels; the tubuli were much filled with calcareous and, in some places, extravasated masses. On the right the same condition existed, with the addition of a certain number of cysts. In the stomach was much mucus, with a slaty discoloration of the pyloric portion. In the aggregations of the Peyerian glands in the ileum were found cheesy tubercles and recent ulcerations; in the cæcum a deep slaty discoloration of the mucous membrane, with enlarged follicles; the vermiform process was constricted in the middle by an abscess filled with a butyraceous mass; behind this it was again dilated, and filled with pus. The mesenteric glands, especially on the cæcum, were enlarged, some of them being soft, and of a reddish-gray colour on section, while others were hard and cheesy.

The examination of the skull and brain gave very little information; nothing of importance was found, with the exception of great œdema of the pia mater and moderate accumulation of watery fluid in the ventricles. In the spinal canal, too, at first, nothing

particular appeared to be present, except that the *liquor spinalis* was rather abundant; the spinal marrow looked tolerably normal externally, nor could I observe any striking change at the roots of the nerves; but on making a transverse section a very considerable alteration, commencing at the upper cervical vertebra and gradually increasing downwards, was perceptible even to the naked eye. It was proportionally greatest towards the lumbar enlargement. Thus in all those situations we saw in the posterior columns, most strongly near the posterior longitudinal fissure, a bright gray, somewhat transparent mass, which replaced the white nervous matter, and which, in the inferior portions of the spinal marrow, was so spread out that it reached to the posterior cornua of the gray substance. Here it appeared to the naked eye so to coalesce with the gray substance that no distinct boundary between them could be perceived. Generally speaking the degeneration commenced in the posterior longitudinal fissure, proceeded thence into the substance of the posterior columns, but at the same time extended most rapidly at their posterior and outer circumference, and, therefore, first reached the posterior cornua at the point of insertion of the posterior roots.

Microscopic examination proved that the posterior columns alone were affected, and that even the posterior cornua did not participate in the alteration. The latter consisted in an extensive disappearance of the nerve fibres, so that, as in the peripheric nerves, only a few of the broader nerve fibres, usually in groups of two or more, existed, appearing on transverse section to stand at distances of from 0·005 to 0·012 of a millimetre from one another. Between them lay a very soft and, when fresh, very easily broken and finely granular-looking substance, in which almost numberless very large and thickly strewn corpora amylacea occurred; and on nearer examination many oval granular nuclei, here and there distinctly seen to be enclosed in round and oblong cell membranes, were observed. No fat was anywhere to be seen, for even the vessels otherwise tolerably congested with blood had normal membranes. After hardening in chromic acid, this condition was still more evident, except that in place of the finely granular substance very densely crowded, velvety, extremely fine but firm fibrillæ had appeared.

I will here refrain from making any further remarks, and call attention to the subject only on account of the case of brown degeneration of the gray medullary substance of the spine I have communicated in the first volume of the Archiv, page 456.—*Virchow's Archiv*, Band viii., Heft 4, p. 537.

On the Keloid of Alibert. By Dr. Ludwig Benjamin.

As, among the few descriptions which exist of Alibert's keloid, not one, so far as I am aware, enters upon its microscopic characters,—probably because its comparatively rare occurrence affords but little opportunity for investigation,—it has occurred to me that the following report might prove interesting:—

A practitioner in this city attempted, by means of the application of caustic, to remove a small congenital mark situated on the buttock of a girl; but as during six weeks' treatment the affection appeared rather to increase in circumference, the parents lost confidence in the very painful remedy, and gave it up.

At the age of two years they brought the child, who was then very strong, to me, their apprehensions being excited by a tumour which had arisen out of the spot, and was steadily increasing and extremely itchy. On examination, I found in the situation indicated a keloid, almost as large as the palm of the hand, projecting three or four millimetres (·11811 or ·15748 inch) above the cuticle, with a very irregular border, and numerous processes of various lengths and forms, which extended, some triangularly pointed, for two or three centimetres (·7874 or 1·1811 inch), others rounded at the end, for one and a half, or two centimetres into the surrounding healthy cutis. Clearly defined from these by its elevation, the tumour was also distinguished by a pale red coloration and some deep furrows, while the fine depressions and hairs of the healthy skin were absent; it resembled a very prominent cicatrix, but in hardness considerably exceeded the latter. Little hemorrhage attended the extirpation, which was effected in the healthy skin.

The tumour, examined while fresh, was found to be everywhere as distinct from the surrounding healthy adipose mass as it was inseparably connected with the cutis. In two opposite places near the edge, a number of small vessels, not extending far, penetrated a capsule, which adhered to the tumour with tolerable firmness, and was thick and hard, consisting of areolar tissue, with scarcely any admixture of elastic fibres. The tumour contained no other vessels. On the surface of section it was of a silvery white appearance, and of cartilaginous hardness, and consisted of areolar tissue and corpuscles of the same; the former does not constitute curly bundles, but thick trunks, the firmly compressed fibres of which run at first in an almost straight direction, gradually separate from one another, and finally fall into several distinct bundles, which, vibrating in curls after repeated subdivision, are at last in nothing distinguishable from normal areolar tissue. The trunks of areolar tissue (*sit venia verbo*) are so closely compressed that no free space is left between them, whence the great hardness of the tumour; they do not run a parallel course, but interlace in various directions, giving the field of vision the aspect of containing a number of trees jumbled toge-

ther. The meshes which are formed by the bundles separating and leaving little chasms between the fibres are almost completely filled with numerous corpuscles of areolar tissue; this part of the tumour forms, nevertheless, a firm tissue, which is, however, of much looser texture than the basis is, and replaces the normal cutis otherwise occupying its place.

The structure and development of the tumour thus appear to be very simple: a few vessels passing at the basis through a capsule of areolar tissue supply the plasma, from which a fibrous layer, little differing in structure from normal areolar tissue, is formed; between the fibres lie corpuscles of areolar tissue, as they are found in almost all tumours consisting of this tissue which are still in process of growth. The keloid is, consequently, only a modification of the subcutaneous areolar tissue, and is to be classed with warts, condylomata, &c.; it is probably more frequently connected with varices; as in this case in two places it proceeds from the cutis, or draws the latter into its circle of formation; is free from pain, but excites violent itching; does not always grow so quickly as in the present instance, in which within two years it attained so considerable an extent as to occupy a space equal to that of the palm of the hand, and has probably no defined limit to its extension, unless this be artificially effected. The general health does not suffer by it, at least it did not in my case; the wound, too, healed without any interruption, so that the theory that keloid is a product of a dyscrasia certainly does not hold good in every instance.

Finally I may mention, that the tumour, in its interior, in one place contained striated muscular bundles, precisely as earlier observers (Rokitansky, Virchow, Weber, and Billroth) have seen. I suspect that these occur much more frequently in tumours than has hitherto been found to be the case, and that they shall be discovered more commonly in proportion as the use of the microscope gains ground among surgeons, and as the number of more minute investigations shall consequently increase. — *Virchow's Archiv*, Band viii., Heft 4. 1855. P. 535.

Brief Remarks on the Indications and Contra-indications for the proper Use of Nux Vomica and Strychnia in Paralytic Affections. By Professor Cav. Maurizio Bufalini.

The same thing has happened with respect to the virtues of nux vomica and strychnia which we have but too often been obliged to point out in reference to those of many medicinal substances: namely, that writers generally recommend them rather as remedies against certain forms of morbid phenomena, than against certain definite lesions of the organism; and extol them further without exactly fixing either their indications or their contra-indications. Accordingly, their use is committed solely to the discretion of practitioners, who, without the guidance of sufficient clinical observation,

are then obliged to regulate it by means of mere conjectures, derived from general physiological and pathological doctrines. This is such an imperfection in therapeutics, that it tends totally to confound the principles of the direct with those of the indirect treatment of our diseases, and gives rise to a very uncertain and casual practice of the healing art. Now the pathology which I have recommended, embracing the study of the elements of human maladies, and of their connexion with the causes of disease, with morbid phenomena, and with the means of cure, places us above being involved in the too minute and often erroneous distinctions of the symptomatics, or abandoning ourselves to the too general and chimerical distinctions of the systematics: two vicious extremes, into which clinical science and the healing art have always been liable to fall. The most finished observers, and the most esteemed practitioners, ordinarily followed both of these erroneous nosologies at once; and might consider themselves truly happy in their treatment, when by chance the empirical symptomatic distinctions corresponded with real definite changes in the organism. Nor, on the other hand, could individual diseases, usually compound or complicated, or variable in their course, be with certainty always susceptible of one and the same plan of treatment. But by an opposite mode, namely, by studying the morbid elements, or the simple excitants of disease, we can always rightly estimate the composition, the successions, the conversions, and the complications of maladies; by which we are necessarily enabled better to judge of their state, and better to combat them with appropriate remedies. Accordingly, we propose—under the guidance of a pathology committed to such principles, drawn exclusively from the study of human nature in a state of disease, the best adapted to furnish a solid basis for the diagnostic and therapeutic art—to investigate the true indications and contra-indications for the right employment of nux vomica and strychnia, as remedies in the treatment of paralytic affections.

These two substances give rise, in healthy animals, to muscular contractions to such an extent as even to throw them into a tetanic condition. Hence their property appeared to be to excite these contractions; and from this effect, manifested on a well-known function of the animal system, Fouquier argued that they ought likewise to be efficacious in paralytic affections; that is, from the evident effect on the function he inferred the probability of a like effect on the sustaining powers of the same function; which is the same as saying, that from their capability to excite the muscular contractility to action, he argued that they should also possess the power of producing new contractility. Nor is this enough yet: paralytic affections are referrible to very different causes, and consequently the muscles are deprived of contractility by very different alterations in the system, which it is our business to remove, in order that the original contractility may be restored to them. So, from the power of exciting muscular contractility to action, it was further argued

that nux vomica and strychnia could remove all kinds of impediments to its exercise. These were, in fact, the arguments of too inconclusive analogies, by which Fouquier was led to recommend nux vomica in paralytic affections. Their use, nevertheless, extended and became common, and for nux vomica was substituted its alkaloid, or the salts of the latter, when the materia medica had been enriched with these new preparations. Successful cures of paralyses exalted the praises of the powers of these remedies; nor is there, at present, any book of clinical science or of therapeutics, which does not recommend their use in these affections. But it is always of paralyses that mention is made, which, however, are but a morbid phenomenon; and not of the alterations of the organism, or of the true excitants of disease (crotopatie) to which they are attributable. In this manner the dicta of pure symptomatic empiricism are constantly put forward as guides of the healing art, even after the voice of the profession has been so much raised against the fallacy of symptomatic medicine, and even after the endeavours which have been made with hypothetic theories to elevate pathology by an extensive generalization of its principles. Mérat alone, having made a careful distinction of hemiplegias, believes that nux vomica and strychnia may be useful in some species of these affections, but that in others they have ordinarily little or no effect. The hemiplegia which he calls traumatic, and the apoplectic, or, in general, that caused by cerebral compression, is not, according to him, usually benefited by the use of the drugs in question; although he admits that he has met with cases in which they have had some good effect. The hemiplegia, on the other hand, which he calls febrile, and which follows certain severe fevers; that which he terms nervous, originating either in a demonstrable lesion of the nervous tissue, or in neuroses, the consequences of strong passions, such as terror, anger, &c.; and that, lastly, which he has denominated humoral, arising, that is to say, from a gouty, rheumatic, psoric, or venereal element, &c., or from a superabundance of bile, &c.: these, in Mérat's opinion, are successfully treated with nux vomica and strychnia[a]. Badly defined as are these several species of hemiplegia, whoever considers them will easily see, that the distinctions between them do not refer to real alterations in the organism, but rather to the causes which are supposed to give rise to them. I, therefore, take notice of Mérat's statements here, only to show that he perceived that it is not in every kind of paralysis that we can expect a good effect from the use of nux vomica and strychnia. Even this is certainly better than to recommend them indiscriminately in all paralyses, without having regard to the diversity of the morbid conditions on which they depend. Musset, too, having admitted paralyses from inflammation, from relaxation or adynamia, from *desséchement*, from hypertrophy, after abuse of venery, or of coffee, tea, wine, or spirituous liquors,

[a] Dictionnaire des Sciences Médicales, vol. xx. p. 268, *et seq.*

or from insufficiency of nourishing food, or from excess of watching or labour; from the action of preparations of lead; from other nervous diseases, as epilepsy, hysteria, hypochondriasis, magnetic somnambulism; from conditions producing intermittent paralyses; from terror, joy, &c., inducing paralysis, which he calls anomalous; lastly, from a bilious state:—believes the employment of nux vomica and strychnia to be useful only in the paralyses from adynamia, and the action of lead compounds; and that, even in the latter, the efficacy of these remedies is very doubtful[a]. Abercrombie observes, that the utility of nux vomica and strychnia is always very uncertain in paralyses, which last long after apoplexy; to which his commentator, Gendrin, adds, that he has administered them to very many patients labouring under paralytic affections, consequent on apoplexy or rheumatism, and that the most sensible effects were quickly produced in the paralyzed limbs,—such as convulsive shocks, restoration of heat, supervention of perspiration, but never the slightest diminution of the paralysis[b]. Trousseau and Pidoux limited the utility of nux vomica to saturnine paralyses, and to those which continue after the cessation of the primary phenomena of concussion of the spinal marrow, or after inflammatory irritation of the latter has been lessened, or after recovery from caries of the vertebræ in Pott's disease; holding, however, Bretonneau's opinion, namely, that the substance in question is not of use in paralyses depending upon lesion of the brain, although it is in those proceeding from lesion of the spinal marrow[c]. Nevertheless, the reports of cases in which nux vomica and strychnia have been successful in the treatment of paralyses, even when these succeeded cerebral apoplexy, are not rare; and such results have been admitted by Mérat and Abercrombie. The latter of these observers thought them doubtful, only because paralyses occasionally, in the lapse of a long period, became spontaneously resolved. But, in my opinion, it is inclining too much to scepticism to be anxious to give such an interpretation to the occurrence of certain recoveries which are either so rapid, or so perfect, as not to be easily referrible solely to the natural powers of the system. I, therefore, think that I speak more in accordance with the teachings of experience when I state, that nux vomica and strychnia have certainly effected the cure of some paralyses, but not, undoubtedly, of many; and that it is, therefore, still necessary to investigate and define the true morbid conditions, by which alone the use of these drugs may be inferred to be indicated.

The same writer, Abercrombie, bore witness, that he had not often found any cerebral lesion, nor any other change, which could account for the disease in individuals who had long been paralytic, and had subsequently died of some other morbid affection[d]. He also

[a] Traité des Maladies Nerveuses, p. 123, *et seq.*
[b] Des Maladies de l'Encephale, Paris, 1835, p. 430.
[c] Traité de Thérapeutique, &c., Tome i. p. 784.
[d] *Op. cit.* p. 426.

notes several cases of paralyses of long standing, observed by himself, and by others, which disappeared almost immediately, either from some mental emotion, or in consequence of the supervention of a fever, or from some other circumstance connected with the person's health. It is evident that in these cases the lesion on which the paralysis depended consisted wholly in the occult condition of the nervous or nervo-muscular tissue, and was truly one of those morbid states which we comprehend under the name of neuroses. Of the same kind appear to be the paralyses which proceed from violent mental agitation, and present no discoverable sign of any sensible morbid state, as well as those of patients labouring under mental alienation; and those produced by the preparations of lead, or by other poisons; and those, in fine, also, which supervene on particular hypertrophies, caused by excessive losses of the fluids of the body, as the blood, semen, or milk, or by excessive watching or labour, by insufficient food, or by the abuse of wine, of spirituous liquors, coffee, or tea. As, then, there are neuroses which manifest themselves in abnormities of the nervo-muscular functions, so there are also neuroses characterized by abolition of the latter; we may say, that there are paralytic neuroses, as there are spasmodic or convulsive neuroses. But, as all spasmodic neuroses are not of the same species, so neither would all paralytic neuroses appear to be of the same kind. And, in fact, no one would say that the neuroses of lead palsies, of those produced by other poisons, of those succeeding to excessive seminal losses or over-lactation, and of those remaining after the disappearance of all the local symptoms of the apoplectic state, and of others still, are all alike. So we may justly hold, in the first place, that there are paralyses from simple neuroses, and paralyses dependent on definite morbid states, sometimes proper also to other diseases, as sanguineous fluxes, apoplexies, various substantial lesions, and mechanical compressions through the influence of solid or fluid bodies, operating on the nervous centres; and, in the second place, we ought to consider the paralyses from neuroses also as not always uniform one with another, but distinguishable into different species. One of these species, that, namely, which persists after all the local symptoms of the apoplectic state have been removed, deserves some particular consideration. Such a paralysis was, at the first, undoubtedly secondary to a clearly definable local morbid condition, nor was it then certainly to be classed among neuroses. In fact, with the cessation of the former, the paralysis also often ceases. When, however, the latter continues long after the local morbid condition of which it was a symptom, it evidently loses this its quality, and acquires a morbid state proper to itself. This, not being recognisable by the senses, is necessarily referred to the same occult nervous association, which we must, therefore, believe to have then assumed the character of a special neurosis. But what shall we say is the nature of the latter? Physiology supplies us with the knowledge of a fact, which may give us no slight foun-

dation for conjecturing its pathogeny. It is well known that tying a nervous trunk suspends in its branches not merely their action, but also their power of acting; and that the removal of the ligature, after a short space of time, permits the nerve itself quickly to resume and continue its functions in all their fulness; but that, when it is taken away after a rather protracted period, the nerve is left in a state of true paralysis. Now, in carefully considering such a fact, we shall clearly see, that the nerve was not injured by the mechanical action of the ligature, for, when the latter was quickly removed, its faculties and functions were perfectly restored; but it was certainly altered by remaining for a long time deprived of the influence of the brain: the ligature suspended the innervation, and the suspension of innervation was the cause of alteration in the internal condition of the nervous combination. The persistent paralysis was then only the consequence of protracted suspension of innervation; and this I think to be a fact worthy of much attention. But in all paralyses proceeding from local lesions of the nervous centres, does not suspension of innervation likewise happen? And if, when these local lesions are removed, paralyses, which are not too recent, shall still persist, shall we not have in this morbid state a fact, perfectly analogous to that of the effects of prolonged ligature? May we not in such manner reasonably presume, that among the neuroses capable of producing paralysis, this is a most special and well-definable one? In all the cases in which we shall have been able to judge that the paralysis had no other origin than some local disorder of the nervous centres, after the paralysis itself shall have persisted for some not very brief period, we shall have reason to infer that the state of neurosis, above alluded to, has arisen in the nerves which are the seat of the affection; and then the paralysis will be either entirely kept up by the neurosis, if the lesions in the nervous centres have been entirely removed, or it will be at least partly so kept up. And this is the neurosis which I would wish more especially to designate paralytic, as that which proceeds solely from the same condition of paralysis, and which, from being a symptom, becomes an independent morbid state, or excitant of disease (crotopatia).

Having premised these necessary distinctions as to the alterations of the system which may occasion paralysis, we ought now, of course, to investigate further what may really be the action of nux vomica, or strychnia, on the healthy animal organism; since, however, clinical observations are wanting in support of a specific virtue in the drugs alluded to; and since Fouquier inferred their therapeutic use solely from their usual action on the healthy animal body; and physicians continued to use them in a very empirical manner, without accurately distinguishing one paralysis from another,—they neither could truly arrive at, nor did they arrive at, any very conclusive demonstration of the possession of a specific power against any particular species of paralysis. I intreat the reader to

bear carefully in mind this great defect in clinical observation, in reference to the medicinal powers of the two drugs above mentioned; and, consequently, the necessity of indeed correcting, but not of altogether abandoning, the argument already used by Fouquier. I purpose therefore to define, as accurately as possible, the action of nux vomica and strychnia on the healthy animal organism; then to examine, if we can assume their efficacy in any of the known species of paralysis; and finally, to inquire if the best attested clinical observations confirm or refute the deductions we have drawn.

From many experiments performed on animals, nux vomica and strychnia have been shown to be capable, not only of exciting, but of permanently maintaining muscular contractions to the degree of producing the most intense tetanic state, under which the animals have perished asphyxiated, in consequence of the impeded dilatation of the thorax. This great and persistent contraction of the muscles seems truly to be something more than a simple excitation of their contractile power. Indeed, ordinary excitants of every kind are unequal to such an effect, at least if we except electrical currents, which develop the tetanic state in frogs exposed to them. The experiments of Pickford would, in fact, appear to have demonstrated that the reflex power of the medulla oblongata, and of the medulla spinalis, is augmented, in an extraordinary degree, under the use of the two drugs referred to, so that the slightest touch to the skin produces tetanus. Consequently, the muscles would seem to be not merely excited to excessive action, but to have acquired a remarkable capability of unusual contractions, under the influence even of excitants ordinarily wholly insufficient to produce the effect they then exhibit. It would not be merely a modification of function, but also a modification of power, which would then arise in the muscles. We may say, in a word, that not only is their irritability excited, but their innervation also is increased, and this, too, in a very extraordinary and very remarkable degree. In such a manner we may, perhaps, understand the development of very permanent muscular contractions, in opposition to the ordinary law of the alternation of the latter with relaxation.

Now, in the first place, I assume, as a clinical fact which has been sufficiently established, that nux vomica and strychnia have developed useful effects in the case of paralysis, consequent on different morbid states, by no means excluding the apoplectic, and those which consist in organic lesions of the nervous centres, or in conditions capable of producing mechanical compression on the latter; so that we cannot look upon the salutary influence of the above-named substances, as exercised upon the excitants, causing the paralysis, but rather on the latter alone. Moreover, we observe, that besides definite alterations of the nervous centres, there are many species of neuroses which throw the organs of motion into a state of paralysis, and therefore we shall inquire if nux vomica and strychnia

have been found efficacious in all of these, or only in some. I have already shown that they certainly appeared to be useful in lead palsy, but not so decidedly as to remove all doubt on the subject; and this would be a specific power against one definite kind of neurosis, which ought certainly to be well established by clinical facts.

Still more imperfect, or wholly deficient, are the observations with regard to the use of these substances in other kinds of paralytic neuroses. A patient in the clinical ward, affected with hemiplegia, caused by arsenic, was placed on the use of strychnia, but derived only injury from it. In nervous hypertrophy, from excessive seminal losses, nux vomica always appeared to me to be badly borne, and to be ordinarily useless. I never ventured to try strychnia in persons whose organico-vital powers were so impaired. Science really wants observations so accurate as to show, with sufficient clearness, the effects of nux vomica and strychnia in the several species of paralytic neurosis. We are, therefore, compelled to conclude that no specific power of these remedies, against the various morbid states from which paralysis arises, has as yet been sufficiently demonstrated; and we are hence further obliged to admit, that when such substances have been useful in paralysis, they have acted rather on the particular morbid subject of the latter, than on the primary excitant (crotopatia) to which they were owing; they combated rather the paralysis, than the morbid state which had originated it; they appeared useful rather against this affection itself, than against the alterations of the organism which preceded it.

This conclusion, drawn from clinical facts, would therefore lead us to regard nux vomica and strychnia as useful in the paralytic neurosis which depends solely on protracted suspension of innervation, which is precisely the form that I should wish more especially to designate paralytic. Such a clinical demonstration corresponds further with the established efficacy of these substances in energetically increasing innervation. We have evidently, in this mode of cure of paralysis, a result of indirect treatment; since, although we do not in it simply modify the state of the functions of the human body in accordance with the sole design of the indirect treatment, we nevertheless act by removing an alteration consequent on the defect of a particular function, and, as it were, identified with the same defect; so that it is very reasonable to suppose that, in restoring the absent function, the alteration, which was a consequence of its cessation, should also be got rid of. In this manner physiological reasoning brings a powerful support, in the case described, to the feeble arguments contributed by clinical observation; and so, between these two classes of data, we conceive we have sufficient foundation for assuming that the use of nux vomica and strychnia is indicated in the case of paralysis alluded to, as consequent solely upon too long suspension of innervation; and further, that we really have neither any physiological nor clinical reason to justify us in

the use of these remedies in any other form of paralysis. But whatever may have been the morbid condition of the nervous centres, which at first originated the paralysis, we may presume that when the latter has persisted for a considerable time, it is combined with the state of special neurosis above described; and hence, by reason solely of its duration, the employment of nux vomica and strychnia might then be judged advisable. On the other hand, in recent paralyses, we cannot suppose that the paralytic neurosis alluded to has occurred; and therefore we should have no indication in such a case to have recourse to these drugs. But when clinical physicians objected to their immediate use in recent paralyses from apoplexy, and supposed that it was necessary first to combat these affections with bloodletting, in order that the body might be brought into a fit state to experience the salutary effects of these substances, I think the true interpretation to be given to this clinical observation is, to look upon it as connected with the result of the occurrence of paralytic neurosis, which does not take place until innervation has been suspended for a certain time. And if, in the case of new productions or organic changes of the nervous centres, these substances appeared less calculated to mitigate the paralytic condition, we might ask if this should be attributed to diminished aptitude of the cerebral organ to perform the function of innervation; at least if it often happens in apoplexy that the local morbid condition gradually diminishes, and sometimes even totally disappears, these organic changes usually, on the contrary, extend more and more, and still further disturb the functions of the brain. It would, therefore, appear that it would be much more easy in the former of these cases than in the second to promote a decided increase of innervation, as it would be necessary to do, in order to lessen or remove paralysis of long standing. If, then, the very composition of the nervous tissue has undergone a change, wherever its function has remained abolished, as may be supposed of many of the paralytic neuroses, it is manifest that it cannot then avail much to augment the innervation, since it would be also necessary to restore to its original condition the internal material state of the nerves themselves. And this view coincides with the results of clinical observation, inasmuch as, at least in all paralyses by poisoning, as well as in those of drunkards, and finally, in those which accompany insanity, it has always appeared that little or no confidence is to be placed in the use of nux vomica and strychnia,—saturnine paralyses alone forming an exception to this rule.

It would hence appear to to be sufficiently proved that the few and imperfect observations we possess, with respect to the true nature of the paralyses combated with nux vomica and strychnia, rather support than contradict the physiological theory I have unfolded of the anti-paralytic power of these substances; and we are therefore justified in maintaining that no other virtue is really to be found in them than that of increasing the innervation; and that

they consequently become, in virtue of this very power, the true specific remedy of such paralyses as proceed solely from suspended innervation; and that it is reasonable to try them in paralyses of long standing, succeeding to local lesions of the nervous centres, and specially to the apoplectic state. Beyond this it seems to me that we cannot as yet consider any other indication for the use of these drugs in the treatment of paralyses to be sufficiently established. Nor is it clear that we ought, with Mérat, to look upon them as possessing powers sufficiently tested in febrile paralyses, in intermittent paralyses, and in those proceeding from mental emotions, or from psoric contamination, or from gout, or syphilis, or cold, or superabundance of bile: all which are forms of paralysis capable of being easily removed, in virtue of the ready mutability of the morbid state on which they depend; of which latter, on the other hand, one would not really know in what lesion of the nervous system it consisted. The true recoveries which have occurred in these rare cases of paralyses might very easily be the result of the natural changes of the disease, rather than the effect of the remedies administered, and therefore a few observations on these particulars become completely inconclusive.

But it is also very important to pay diligent attention to the contra-indications of their use. Since animals put to death by means of nux vomica and strychnia have exhibited the nervous centres, and especially the medulla spinalis, in a state of sanguineous congestion, and also denoting inflammation, the first contra-indication to the use of these remedies is evidently derived from the existence of either of these conditions in any of the nervous centres, or indeed merely from a strong predisposition of these parts to such states. Before adopting the use of these drugs, we must, therefore, very accurately ascertain the absence of the conditions alluded to; to enter upon the signs to be relied on in reference to this point would, however, evidently be beyond the scope of this memoir. But these substances, if given either in too large a dose, or if continued for too long a time, may easily prove injurious; that is, they disturb, in a more or less permanent manner, the organic whole or constitution, and, it would appear, especially that of the nervous tissue itelf.

It will be useful here to call to mind the observation I have, on another occasion, quoted from Segalas, who found a portion of the medulla spinalis of animals, which he had killed by the administration of nux vomica, to be poisonous to other animals; whence he himself inferred, that the substance of the nux vomica had become amalgamated with that of the medulla spinalis. Nor do I wish to overlook the learned views of Liebig, which tend to establish that poisons which abolish the vital powers of the nervo-muscular organs, develop a truly putrescent action, that is, an action calculated to transfer the organic molecules directly into inorganic combinations; a power which belongs especially to the mineral poisons, to which, be-

sides, I refer the more willingly, as the alkaloids, and the salts formed of the latter, approach them nearly in their properties. For, although these are substances derived solely from organic compounds, nevertheless, from the simple state to which they are reduced, they closely resemble the inorganic elements in their chemical properties; and in the animal system they really manifest a disturbing power, not at all possessed by the vegetable substances from which they are derived: so, for example, the salts of quina easily produce derangements which we never see caused by bark, and atropia and strychnia are scarcely borne at all. Having established, then, that either from the administration of too large doses, or from too long a continuance in the use of nux vomica and strychnia, disturbing effects, that is, effects alterative or destructive of the aggregate, or organic constitution, are to be apprehended; we have a very strong contra-indication to the use of these substances in all cases where the power of organic resistance is abnormally feeble. On this point also we must, therefore, make a very accurate diagnosis before employing these remedies; nor is it within my province in this place to lay down the signs which are to guide us in forming our opinion upon it. I shall merely observe, that in all cases of paralysis combined with hypertrophy, and much more with that which is caused by the loss of the natural fluids of the human body, as the semen, blood, or milk; as also in all cases of altered organic composition, such as we meet, for example, in the scorbutic, the gouty, the herpetic; in syphilitic patients; in those who have largely used mercury, or have injured themselves by the excessive use of coffee or tea; in those in general who suffer from the effects of any poison; and in drunkards,—we have, in my opinion, a very strong contra-indication to the use of nux vomica and strychnia. But equally, childhood, the female sex, pregnancy, and the puerperal state, may from the same cause contra-indicate their administration; and this is also strictly to be avoided in all those anomalous dyscrasias, whether temporary or permanent, which are often met with in the human body, more especially in the case of full livers. For which reason, also, we should regard epidemic constitutions, which, with the exception of those which are of an inflammatory type, always weaken the power of resistance of the system, as contra-indications to the use of nux vomica and strychnia. And, perhaps, it is unnecessary to remind the reader, that nervous softenings, which exceedingly increase the susceptibility of the nervous tissue to every disturbing action, are very strongly contra-indicative of the same. In a word, every condition of imperfect or perverted organic assimilation, in which the organic resistance is necessarily weakened, should be considered as contra-indicating the use of any substance capable of producing a perverting or putrescent action, and much more that of the above two, so prone to give rise to a very powerful action of this kind. We should, also, bearing the foregoing in mind, very accurately examine the signs which particularly indicate a deficient organic

resistance of the nervous system, which are derived chiefly: First, from the excessive readiness and intensity with which dynamic actions are developed by every kind of analeptic excitants; secondly, from the great tendency to abnormity or irregularity of these actions, in consequence of a moderate analeptic excitation; thirdly, from the unusual persistence of certain dynamic derangements indicating the occurrence of a chemico-organic change, through the influence of a force which does not usually produce the same effect with such facility; and fourthly, from almost absolute intolerance of perverting excitants. These effects, which may also be experimentally investigated by means of less dangerous substances, are sufficient to indicate to what degree the disturbing actions of nux vomica and strychnia are to be dreaded, and thus to enable us to judge whether we may or may not safely employ them. Further, other more special contra-indications which may be derived from certain peculiar influences of those drugs upon particular organs, as, for example, the chylopoietic and urinary, are of less importance. On these points no general rule can be formed; but the physician ought, in each individual case, to take them into consideration. The two most important and most general contra-indications to the use of nux vomica and strychnia, I believe to be the above mentioned, namely,—first the state of inflammatory congestion of the nervous centres, or a strong predisposition thereto; and, secondly, the existence of a condition of too feeble organic resistance.

But it should be understood that these indications and contra-indications must be estimated not absolutely, but relatively, that is, according as one or other may be of greater importance; and consequently, that the more important should always be followed; hence, sometimes, the contra-indications, and sometimes, on the other hand, the indications, are to be set aside. Further, when the former are not sufficiently weighty to entirely forbid the use of the remedy, which is otherwise strongly indicated, they ought, at least, to render us more circumspect and moderate in its administration. Such, are, generally speaking, the rules to be observed in carrying out any mode of treatment; and such I believe to be applicable to that of which I have been treating.

I would finally remark, that all the considerations hitherto advanced apply equally to the use of electric currents, of brucia, rhus, and arnica, in cases of paralyses, as being all remedies which are likewise thought to be adapted to strengthen the innervation. For all these, I believe that the same indications and contra-indications exist, which I have laid down for the proper use of nux vomica and strychnia, with the exception only of the great attention which must be paid to the different degree of disturbing power belonging to each. With respect to this latter, I think that strychnia ought to be placed before all the others; then nux vomica: afterwards brucia, electrical currents, rhus, and lastly, arnica. Further, I believe that strychnia and nux vomica have more power than

all the others in exciting sanguineous congestions and inflammations in the nervous centres. So, in proportion to these known powers of each of the above-mentioned agents, must more weight be attached to the two general contra-indications before described. Such is the amount of what I have believed it useful to lay down for the better regulation of the employment of the therapeutic agents in question, which have hitherto, indeed, been too frequently administered with blind empiricism.—*Gazzetta Medica Italiana Toscana*, 2 January, 1856, p. 1.


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